

Chemical Analysis Report

SE-DIST-2019-03-20-02

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

Event Description: **SMP- Biscayne**
Request ID: **RQ-2019-03-18-46**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
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2199 South Rock Road
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 11-APR-2019 15:10



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: ATLANTIC OCEAN

Collection Date/Time: 03/19/2019 09:00

Field ID: G4SE0104

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2071355	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P360791	
	EPA 300.0	Bromide	80		mg Br/L	P361107	
	SM 2320 B-97	Total Alkalinity	125		mg CaCO3/L	P361325	RPD
	SM 2540 D-97	TSS	3	U	mg/L	P361355	
	SM 4500 F-C-97	Fluoride	1.4		mg F/L	P361720	
2071360	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P361177	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P361143	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.015		mg N/L	P360852	
	EPA 365.1 Rev. 2.0	Total-P	0.007	I	mg P/L	P361122	
	SM 5310 B-00	Organic Carbon	1.5	I	mg C/L	P360967	
2071365	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P360798	

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: ATLANTIC OCEAN

Collection Date/Time: 03/19/2019 11:30

Field ID: G4SE0103

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2071356	EPA 180.1 Rev. 2.0	Turbidity	0.45		NTU	P360791	
	EPA 300.0	Bromide	78		mg Br/L	P361107	
	SM 2320 B-97	Total Alkalinity	122		mg CaCO3/L	P361325	RPD
	SM 2540 D-97	TSS	3	U	mg/L	P361355	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P361720	
2071361	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P361177	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	U	mg N/L	P361143	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P360853	
	EPA 365.1 Rev. 2.0	Total-P	0.006	I	mg P/L	P361122	
	SM 5310 B-00	Organic Carbon	1.2	I	mg C/L	P360967	
2071366	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P360798	

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: ATLANTIC OCEAN

Collection Date/Time: 03/19/2019 10:30

Field ID: G4SE0102

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2071357	EPA 180.1 Rev. 2.0	Turbidity	0.20		NTU	P360791	
	EPA 300.0	Bromide	78		mg Br/L	P361107	
	SM 2320 B-97	Total Alkalinity	123		mg CaCO3/L	P361325	RPD
	SM 2540 D-97	TSS	3	U	mg/L	P361355	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P361720	
2071362	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P361177	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	U	mg N/L	P361143	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P360853	
	EPA 365.1 Rev. 2.0	Total-P	0.005	I	mg P/L	P361122	
	SM 5310 B-00	Organic Carbon	1.0	U	mg C/L	P360967	
2071367	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P360798	

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: ATLANTIC OCEAN

Collection Date/Time: 03/19/2019 09:30

Field ID: G4SE0105

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2071358	EPA 180.1 Rev. 2.0	Turbidity	0.40		NTU	P360791	
	EPA 300.0	Bromide	77		mg Br/L	P361107	
	SM 2320 B-97	Total Alkalinity	122		mg CaCO3/L	P361325	RPD
	SM 2540 D-97	TSS	3	UA	mg/L	P361355	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P361720	
2071363	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P361177	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	U	mg N/L	P361143	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P360853	
	EPA 365.1 Rev. 2.0	Total-P	0.008	I	mg P/L	P361266	
	SM 5310 B-00	Organic Carbon	1.1	I	mg C/L	P360967	
2071368	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P360798	

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: C-111 WEST

Collection Date/Time: 03/19/2019 13:00

Field ID: G4SE0127

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2071352	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P360791	
	EPA 300.0 Rev. 2.1	Chloride	73		mg Cl/L	P361126	
		Sulfate	11		mg SO4/L	P361128	
	SM 2120 B	Color (true)	49	A	PCU	P360824	
	SM 2320 B-97	Total Alkalinity	199		mg CaCO3/L	P361243	
	SM 2540 C-97	TDS	356		mg/L	P361341	
	SM 2540 D-97	TSS	2	I	mg/L	P361352	
	SM 4500 F-C-97	Fluoride	0.30		mg F/L	P361247	
2071353	EPA 350.1 Rev. 2.0	Ammonia-N	0.19		mg N/L	P361180	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P360981	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.053		mg N/L	P360964	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P361120	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P360966	
2071354	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P360796	

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: C-111 WEST

Collection Date/Time: 03/19/2019 13:05

Field ID: G4SE0127_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2071359	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P360792	
	EPA 300.0	Bromide	0.19		mg Br/L	P361107	
	SM 2320 B-97	Total Alkalinity	198		mg CaCO3/L	P361243	
	SM 2540 D-97	TSS	2	IA	mg/L	P361354	
	SM 4500 F-C-97	Fluoride	0.31		mg F/L	P361247	
2071364	EPA 350.1 Rev. 2.0	Ammonia-N	0.18		mg N/L	P361180	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P360981	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.054		mg N/L	P360971	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P361120	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P360965	
2071369	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P360796	

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: C-111 WEST

Collection Date/Time: 03/19/2019 13:10

Field ID: FB_19032019

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2071370	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P360792	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P361126	
		Sulfate	0.20	U	mg SO4/L	P361128	
		Color (true)	2.5	U	PCU	P360824	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P361243	
	SM 2540 C-97	TDS	15	U	mg/L	P361339	
	SM 2540 D-97	TSS	2	U	mg/L	P361350	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P361247	
2071371	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P361180	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P360981	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P360971	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P361120	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P360965	
2071372	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P360797	

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: P360791

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P360792

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0
Batch ID: P361107

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361126

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361128

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P361177

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P361180

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360981

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P361143

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360852

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360853

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360964

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360971

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361120

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361122

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361266

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360796

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360797

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360798

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

Reference Method: SM 2120 B
Batch ID: P360824

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P361243

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

Reference Method: SM 2320 B-97
Batch ID: P361325

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

Reference Method: SM 2540 C-97
Batch ID: P361339

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P361341

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P361350

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P361352

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P361354

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P361355

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P361247

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P361720

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P360965

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

Reference Method: SM 5310 B-00
Batch ID: P360966

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

Reference Method: SM 5310 B-00
Batch ID: P360967

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: P361107

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P361126

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P361128

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P361177

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P361180

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P360981

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P361143

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P360852

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P360853

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360964

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360971

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361120

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361122

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361266

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360796

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360797

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360798

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.8		P	90 - 110

Reference Method: SM 2120 B
Batch ID: P360824

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P361243

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	98 - 107

Reference Method: SM 2320 B-97
Batch ID: P361325

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.8		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P361247

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P361720

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.8		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P360965

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	100		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P360966

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

Reference Method: SM 5310 B-00
Batch ID: P360967

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0
Batch ID: P361107

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071359	Bromide	99.6	98.8	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361126

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071282	Chloride	98.0		P	90 - 110
2071499	Chloride	99.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361128

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071282	Sulfate	101		P	90 - 110
2071499	Sulfate	99.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P361177

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071011	Ammonia-N	104	106	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P361180

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071322	Ammonia-N	105	106	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360981

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071324	Kjeldahl Nitrogen	99.5	94.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P361143

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2072128	Kjeldahl Nitrogen	97.0	96.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360852

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071006	NO2NO3-N	99.0	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360853

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071361	NO2NO3-N	102	104	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360964

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071325	NO2NO3-N	97.0	97.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360971

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071364	NO2NO3-N	106	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361120

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071323	Total-P	99.6	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361122

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071010	Total-P	98.6	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361266

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071363	Total-P	90.4	91.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360796

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071256	O-Phosphate-P	96.2	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360797

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071515	O-Phosphate-P	98.1	99.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360798

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071365	O-Phosphate-P	96.4	98.4	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P361247

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071227	Fluoride	97.3	97.3	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P361720

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071355	Fluoride	92.5	93.2	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P360965

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071322	Organic Carbon	100	99.6	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P360966

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071575	Organic Carbon	102	102	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P360967

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2070345	Organic Carbon	101	102	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P360791

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071318	Turbidity	1.08	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P360792

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071513	Turbidity	4.62	Sample	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P361107

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071359	Bromide	0.614	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361126

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071282	Chloride	0.425	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361128

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071282	Sulfate	0.294	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P361177

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071011	Ammonia-N	1.35	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P361180

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071322	Ammonia-N	0.631	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360981

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071324	Kjeldahl Nitrogen	5.19	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P361143

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2072128	Kjeldahl Nitrogen	0.425	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360852

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071006	NO2NO3-N	1.79	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360853

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071361	NO2NO3-N	1.89	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360964

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071325	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360971

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071364	NO2NO3-N	0.375	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361120

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071323	Total-P	4.41	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361122

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071010	Total-P	4.24	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361266

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071363	Total-P	1.04	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360796

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071256	O-Phosphate-P	1.19	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360797

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071515	O-Phosphate-P	1.20	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360798

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071365	O-Phosphate-P	2.05	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P360824

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071352	Color (true)	0.132	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P361243

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071227	Total Alkalinity	0.471	Sample	P	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P361325

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2072183	Total Alkalinity	8.26	Sample	F	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P361339

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071227	TDS	2.64	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P361341

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071398	TDS	4.91	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P361247

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071227	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P361720

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071355	Fluoride	0.473	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P360965

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071322	Organic Carbon	0.384	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P360966

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071575	Organic Carbon	0.519	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P360967

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2070345	Organic Carbon	0.344	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A90130

Included Lab Sample IDs: 2071352, 2071355, 2071356, 2071357, 2071358, 2071359, 2071370

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A90131

Included Lab Sample IDs: 2071354, 2071365, 2071366, 2071367, 2071368, 2071369, 2071372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.0	98.5	P/P	90 - 110
O-Phosphate-P	99.3	99.3	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A90152

Included Lab Sample IDs: 2071352, 2071370

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	103	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A90160

Included Lab Sample IDs: 2071360, 2071361, 2071362, 2071363

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	98.0	P/P	90 - 110
NO2NO3-N	99.0	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A90215

Included Lab Sample IDs: 2071353

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	99.5	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A90216

Included Lab Sample IDs: 2071353, 2071360, 2071361, 2071362, 2071363, 2071364, 2071371

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.1	97.6	P/P	90 - 110
Organic Carbon	98.4	99.4	P/P	90 - 110
Organic Carbon	98.6	98.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A90217

Included Lab Sample IDs: 2071364, 2071371

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A90244

Included Lab Sample IDs: 2071353, 2071364, 2071371

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.0	104	P/P	90 - 110
Kjeldahl Nitrogen	98.8	95.0	P/P	90 - 110

Reference Method: EPA 300.0

Run ID: A90252

Included Lab Sample IDs: 2071355, 2071356, 2071357, 2071358, 2071359

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	101	104	P/P	90 - 110
Bromide	104	105	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A90259

Included Lab Sample IDs: 2071352, 2071370

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A90288

Included Lab Sample IDs: 2071353, 2071360, 2071361, 2071362, 2071363, 2071364, 2071371

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A90298

Included Lab Sample IDs: 2071360, 2071361, 2071362, 2071363

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	103	P/P	90 - 110
Kjeldahl Nitrogen	103	95.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A90303

Included Lab Sample IDs: 2071353, 2071360, 2071361, 2071362, 2071364, 2071371

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.2	P/P	90 - 110
Total-P	99.8	99.2	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A90311

Included Lab Sample IDs: 2071352, 2071359, 2071370

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

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A90311

Included Lab Sample IDs: 2071352, 2071359, 2071370

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

Reference Method: SM 2320 B-97

Run ID: A90337

Included Lab Sample IDs: 2071355, 2071356, 2071357, 2071358

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.4	99.4	P/P	90 - 110
Total Alkalinity	99.7	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A90350

Included Lab Sample IDs: 2071363

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

Reference Method: SM 4500 F-C-97

Run ID: A90507

Included Lab Sample IDs: 2071355, 2071356, 2071357, 2071358

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

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 180.1 Rev. 2.0	Turbidity				1.08	
	Turbidity				4.62	
EPA 300.0	Bromide	105	99.6	98.8		0.614
EPA 300.0 Rev. 2.1	Chloride	101	98.0	99.1	0.425	
	Sulfate	102	101	99.2	0.294	
EPA 350.1 Rev. 2.0	Ammonia-N	103	104	106		1.35
	Ammonia-N	101	105	106		0.631
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	99.5	94.0		5.19
	Kjeldahl Nitrogen	104	97.0	96.4		0.425
EPA 353.2 Rev. 2.0	NO2NO3-N	102	99.0	101		1.79
	NO2NO3-N	99.5	102	104		1.89
	NO2NO3-N	99.0	97.0	97.0		0.0
	NO2NO3-N	104	106	107		0.375
EPA 365.1 Rev. 2.0	Total-P	105	99.6	105		4.41
	Total-P	101	98.6	103		4.24
	Total-P	100	90.4	91.4		1.04
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.4	96.2	97.5		1.19
	O-Phosphate-P	102	98.1	99.7		1.20
	O-Phosphate-P	99.8	96.4	98.4		2.05
SM 2120 B	Color (true)	102			0.132	
SM 2320 B-97	Total Alkalinity	105			0.471	
	Total Alkalinity	99.8			8.26	
SM 2540 C-97	TDS				2.64	
	TDS				4.91	
SM 4500 F-C-97	Fluoride	101	97.3	97.3		0.0
	Fluoride	99.8	92.5	93.2		0.473
SM 5310 B-00	Organic Carbon	100	100	99.6		0.384
	Organic Carbon	99.9	102	102		0.519
	Organic Carbon	101	101	102		0.344

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2071352, 2071355, 2071356, 2071357, 2071358, 2071359, 2071370
EPA 300.0 / E31780	Bromide in aqueous matrices	2071355, 2071356, 2071357, 2071358, 2071359
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2071352, 2071370
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2071352, 2071370
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2071353, 2071360, 2071361, 2071362, 2071363, 2071364, 2071371
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2071353, 2071360, 2071361, 2071362, 2071363, 2071364, 2071371
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2071353, 2071360, 2071361, 2071362, 2071363, 2071364, 2071371
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2071353, 2071360, 2071361, 2071362, 2071363, 2071364, 2071371
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2071354, 2071365, 2071366, 2071367, 2071368, 2071369, 2071372
SM 2120 B / E31780	True Color measured at 450 nm	2071352, 2071370
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2071352, 2071355, 2071356, 2071357, 2071358, 2071359, 2071370
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2071352, 2071370

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2071352, 2071355, 2071356, 2071357, 2071358, 2071359, 2071370
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2071352, 2071355, 2071356, 2071357, 2071358, 2071359, 2071370
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2071353, 2071360, 2071361, 2071362, 2071363, 2071364, 2071371

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	03/20/2019			03/20/2019 16:08	Adrian Shelby	2071352, 2071355, 2071356, 2071357, 2071358, 2071359, 2071370
EPA 300.0	03/20/2019			03/22/2019 20:26	Lipi Saha	2071359
	03/20/2019			03/22/2019 22:25	Lipi Saha	2071355
	03/20/2019			03/22/2019 22:42	Lipi Saha	2071356
	03/20/2019			03/22/2019 22:59	Lipi Saha	2071357
	03/20/2019			03/22/2019 23:51	Lipi Saha	2071358
EPA 300.0 Rev. 2.1	03/20/2019			03/26/2019 20:14	Lipi Saha	2071352
	03/20/2019			03/26/2019 20:26	Lipi Saha	2071370
EPA 350.1 Rev. 2.0	03/20/2019			03/27/2019 11:04	Ping Hua	2071360
	03/20/2019			03/27/2019 11:05	Ping Hua	2071361
	03/20/2019			03/27/2019 11:07	Ping Hua	2071362
	03/20/2019			03/27/2019 11:14	Ping Hua	2071363
	03/20/2019			03/27/2019 12:39	Ping Hua	2071353
	03/20/2019			03/27/2019 12:40	Ping Hua	2071364
	03/20/2019			03/27/2019 12:45	Ping Hua	2071371
EPA 351.2 Rev. 2.0	03/20/2019	03/25/2019 10:45	Adrian Shelby	03/26/2019 15:39	Joseph Suarez	2071353
	03/20/2019	03/25/2019 10:45	Adrian Shelby	03/26/2019 15:44	Joseph Suarez	2071364
	03/20/2019	03/25/2019 10:45	Adrian Shelby	03/26/2019 15:46	Joseph Suarez	2071371
	03/20/2019	03/27/2019 14:00	Jhamieka S. Greenwood	03/28/2019 10:27	Joseph Suarez	2071360
	03/20/2019	03/27/2019 14:00	Jhamieka S. Greenwood	03/28/2019 10:32	Joseph Suarez	2071361
	03/20/2019	03/27/2019 14:00	Jhamieka S. Greenwood	03/28/2019 10:34	Joseph Suarez	2071362
	03/20/2019	03/27/2019 14:00	Jhamieka S. Greenwood	03/28/2019 10:35	Joseph Suarez	2071363
EPA 353.2 Rev. 2.0	03/20/2019			03/21/2019 13:41	Lauren Lees	2071360
	03/20/2019			03/21/2019 13:48	Lauren Lees	2071361
	03/20/2019			03/21/2019 13:54	Lauren Lees	2071362
	03/20/2019			03/21/2019 13:55	Lauren Lees	2071363
	03/20/2019			03/22/2019 11:39	Beverly Y. Sanders	2071353
	03/20/2019			03/25/2019 09:54	Beverly Y. Sanders	2071364
	03/20/2019			03/25/2019 10:00	Beverly Y. Sanders	2071371
EPA 365.1 Rev. 2.0	03/20/2019	03/27/2019 12:00	Adrian Shelby	03/28/2019 15:16	Rosalyn Ballman	2071353, 2071364
	03/20/2019	03/27/2019 12:00	Adrian Shelby	03/28/2019 15:17	Rosalyn Ballman	2071371
	03/20/2019	03/27/2019 12:00	Adrian Shelby	03/28/2019 15:36	Rosalyn Ballman	2071360
	03/20/2019	03/27/2019 12:00	Adrian Shelby	03/28/2019 15:37	Rosalyn Ballman	2071361
	03/20/2019	03/27/2019 12:00	Adrian Shelby	03/28/2019 15:38	Rosalyn Ballman	2071362
	03/20/2019	03/29/2019 12:25	Adrian Shelby	04/01/2019 16:17	Rosalyn Ballman	2071363
EPA 365.1 Rev. 2.0 dissolved	03/20/2019			03/20/2019 16:06	Julia Storbeck	2071365
	03/20/2019			03/20/2019 16:09	Julia Storbeck	2071354, 2071372
	03/20/2019			03/20/2019 16:10	Julia Storbeck	2071369
	03/20/2019			03/20/2019 16:32	Julia Storbeck	2071366

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	03/20/2019			03/20/2019 16:33	Julia Storbeck	2071367
	03/20/2019			03/20/2019 16:34	Julia Storbeck	2071368
SM 2120 B	03/20/2019			03/20/2019 16:13	Mariam Hanna	2071352
	03/20/2019			03/20/2019 16:14	Mariam Hanna	2071370
SM 2320 B-97	03/20/2019			03/28/2019 17:10	Dale L. Simmons	2071352
	03/20/2019			03/28/2019 17:23	Dale L. Simmons	2071359
	03/20/2019			03/28/2019 17:37	Dale L. Simmons	2071370
	03/20/2019			03/30/2019 12:58	Samantha Davila	2071355
	03/20/2019			03/30/2019 13:10	Samantha Davila	2071356
	03/20/2019			03/30/2019 14:13	Samantha Davila	2071357
	03/20/2019			03/30/2019 14:25	Samantha Davila	2071358
	03/20/2019			03/22/2019 14:59	Yijie Li	2071352, 2071370
SM 2540 C-97	03/20/2019			03/22/2019 14:59	Yijie Li	2071352, 2071355, 2071356, 2071357, 2071358, 2071359, 2071370
SM 2540 D-97	03/20/2019					
SM 4500 F-C-97	03/20/2019			03/28/2019 17:10	Dale L. Simmons	2071352
	03/20/2019			03/28/2019 17:23	Dale L. Simmons	2071359
	03/20/2019			03/28/2019 17:37	Dale L. Simmons	2071370
	03/20/2019			04/06/2019 11:05	Dale L. Simmons	2071355
	03/20/2019			04/06/2019 11:16	Dale L. Simmons	2071356
	03/20/2019			04/06/2019 11:20	Dale L. Simmons	2071357
	03/20/2019			04/06/2019 12:05	Dale L. Simmons	2071358
	03/20/2019			03/22/2019 20:05	Julia Storbeck	2071364
SM 5310 B-00	03/20/2019			03/22/2019 20:17	Julia Storbeck	2071371
	03/20/2019			03/23/2019 05:15	Julia Storbeck	2071353
	03/20/2019			03/23/2019 08:18	Julia Storbeck	2071360
	03/20/2019			03/23/2019 08:43	Julia Storbeck	2071361
	03/20/2019			03/23/2019 08:55	Julia Storbeck	2071362
	03/20/2019			03/23/2019 09:07	Julia Storbeck	2071363