

Chemical Analysis Report

NE-DIST-2019-03-14-02

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

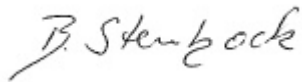
Event Description: **Nassau North Boat**
Request ID: **RQ-2019-03-11-18**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 09-APR-2019 16:31



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 groups are included in this report: Metals and 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: St. Marys River at Crandall rd

Collection Date/Time: 03/13/2019 10:00

Field ID: G4NE0293

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2070062	EPA 180.1 Rev. 2.0	Turbidity	6.2		NTU	P360457	
	EPA 300.0	Bromide	2.8		mg Br/L	P360572	
	SM 2320 B-97	Total Alkalinity	13		mg CaCO3/L	P361098	
	SM 2540 D-97	TSS	9	I	mg/L	P360819	
	SM 4500 F-C-97	Fluoride	0.10		mg F/L	P360987	
2070065	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P360673	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.86		mg N/L	P360869	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.027		mg N/L	P360780	
	EPA 365.1 Rev. 2.0	Total-P	0.045		mg P/L	P360688	
	SM 5310 B-00	Organic Carbon	27		mg C/L	P360905	
2070068	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.016		mg P/L	P360485	
2070085	EPA 200.7 Rev. 4.4	Iron	690		ug/L	P360680	
		Manganese	9.5		ug/L	P360680	
		Zinc	5.0	U	ug/L	P360680	
	EPA 200.8 Rev. 5.4	Aluminum	408		ug/L	P360680	
		Antimony	0.052	I	ug/L	P360680	
		Arsenic	0.63		ug/L	P360680	
		Cadmium	0.020	U	ug/L	P360680	
		Chromium	0.68	I	ug/L	P360680	
		Copper	0.40	U	ug/L	P360680	
		Lead	0.53		ug/L	P360680	
		Nickel	0.61	I	ug/L	P361042	
		Selenium	0.20	U	ug/L	P360680	MS
		Silver	0.010	U	ug/L	P360680	
		Thallium	0.10	U	ug/L	P360680	

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: ST MARYS R AT GA LINE US 17

Collection Date/Time: 03/13/2019 10:40

Field ID: 19010001

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2070063	EPA 180.1 Rev. 2.0	Turbidity	5.4		NTU	P360457	
	EPA 300.0	Bromide	0.035	I	mg Br/L	P360572	
	SM 2320 B-97	Total Alkalinity	5.1		mg CaCO3/L	P361098	
	SM 2540 D-97	TSS	5	IA	mg/L	P360820	
	SM 4500 F-C-97	Fluoride	0.044	I	mg F/L	P360987	
2070066	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P360674	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.86		mg N/L	P360869	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.022		mg N/L	P360780	
	EPA 365.1 Rev. 2.0	Total-P	0.044		mg P/L	P360688	
	SM 5310 B-00	Organic Carbon	28		mg C/L	P360905	
2070069	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.017		mg P/L	P360485	
2070086	EPA 200.7 Rev. 4.4	Iron	850		ug/L	P360680	
		Manganese	10.3		ug/L	P360680	
		Zinc	5.0	U	ug/L	P360680	
	EPA 200.8 Rev. 5.4	Aluminum	523		ug/L	P360680	
		Antimony	0.050	U	ug/L	P360680	
		Arsenic	0.43		ug/L	P360680	
		Cadmium	0.020	U	ug/L	P360680	
		Chromium	0.75	I	ug/L	P360680	
		Copper	0.42	I	ug/L	P360680	
		Lead	0.62		ug/L	P360680	
		Nickel	0.66	I	ug/L	P361042	
		Selenium	0.20	U	ug/L	P360680	MS
		Silver	0.010	U	ug/L	P360680	
		Thallium	0.10	U	ug/L	P360680	

Ref. Method and Comment:

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

EPA 353.2 Rev. 2.0: The result was confirmed on 03/20/2019.

Sample Location: ST MARYS RIVER AT GA LINE US 17

Collection Date/Time: 03/13/2019 10:45

Field ID: 19010001DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2070064	EPA 180.1 Rev. 2.0	Turbidity	5.4		NTU	P360457	
	EPA 300.0	Bromide	0.035	I	mg Br/L	P360572	
	SM 2320 B-97	Total Alkalinity	5.4		mg CaCO3/L	P361098	
	SM 2540 D-97	TSS	4	I	mg/L	P360820	
	SM 4500 F-C-97	Fluoride	0.045	I	mg F/L	P360987	
2070067	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P360674	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.87		mg N/L	P360869	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P360780	
	EPA 365.1 Rev. 2.0	Total-P	0.044		mg P/L	P360688	
	SM 5310 B-00	Organic Carbon	28		mg C/L	P360905	
2070070	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.018		mg P/L	P360485	
2070087	EPA 200.7 Rev. 4.4	Iron	930		ug/L	P360680	
		Manganese	10.5		ug/L	P360680	
		Zinc	5.0	U	ug/L	P360680	
	EPA 200.8 Rev. 5.4	Aluminum	588		ug/L	P360680	
		Antimony	0.050	U	ug/L	P360680	
		Arsenic	0.44		ug/L	P360680	
		Cadmium	0.020	U	ug/L	P360680	
		Chromium	0.85	I	ug/L	P360680	
		Copper	0.49	I	ug/L	P360680	
		Lead	0.66		ug/L	P360680	
		Nickel	0.72	I	ug/L	P361042	
		Selenium	0.20	U	ug/L	P360680	MS
		Silver	0.010	U	ug/L	P360680	
		Thallium	0.10	U	ug/L	P360680	

Ref. Method and Comment:

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

EPA 353.2 Rev. 2.0: The result was confirmed on 03/20/2019.

Sample Location: NE ROC DI

Collection Date/Time: 03/13/2019 10:50

Field ID: BLANK 03132019

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2070074	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P360457	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P361007	
		Sulfate	0.20	U	mg SO4/L	P361012	
	SM 2120 B	Color (true)	2.5	U	PCU	P360502	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P361098	
	SM 2540 C-97	TDS	15	U	mg/L	P360949	
	SM 2540 D-97	TSS	2	U	mg/L	P360820	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P360987	
2070075	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P360674	
	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	P360780	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P360688	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P360905	
2070076	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P360486	

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: Little St. Marys River at the Mouth

Collection Date/Time: 03/13/2019 11:10

Field ID: G4NE0291

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2070071	EPA 180.1 Rev. 2.0	Turbidity	4.3		NTU	P360457	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P361007	
		Sulfate	4.2		mg SO4/L	P361012	
		Color (true)	320		PCU	P360449	
	SM 2320 B-97	Total Alkalinity	7.1		mg CaCO3/L	P361098	
	SM 2540 C-97	TDS	110		mg/L	P360949	
	SM 2540 D-97	TSS	2	I	mg/L	P360820	
	SM 4500 F-C-97	Fluoride	0.048	I	mg F/L	P360987	
2070072	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P360673	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.87		mg N/L	P360869	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.021		mg N/L	P360780	
	EPA 365.1 Rev. 2.0	Total-P	0.039		mg P/L	P360688	
	SM 5310 B-00	Organic Carbon	29		mg C/L	P360905	
2070073	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.014		mg P/L	P360486	
2070088	EPA 200.7 Rev. 4.4	Barium	16.5		ug/L	P360680	
		Calcium	5.70		mg/L	P360680	
		Iron	790		ug/L	P360680	
		Magnesium	2.79		mg/L	P360680	
		Potassium	0.85	I	mg/L	P360680	
		Sodium	11.4		mg/L	P360680	
		Zinc	5.0	U	ug/L	P360680	
	EPA 200.8 Rev. 5.4	Aluminum	676		ug/L	P360680	
		Antimony	0.050	U	ug/L	P360680	
		Arsenic	0.46		ug/L	P360680	
		Cadmium	0.020	U	ug/L	P360680	
		Chromium	0.84	I	ug/L	P360680	
		Copper	0.60	I	ug/L	P361042	
		Lead	0.63		ug/L	P360680	
		Nickel	0.66	I	ug/L	P361042	
		Selenium	0.20	U	ug/L	P360680	MS
		Silver	0.010	U	ug/L	P360680	
		Thallium	0.10	U	ug/L	P360680	

Ref. Method and Comment:

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

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 03/27/2019.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P360457

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360680

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Manganese	1.0	U	ug/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360680

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P361042

Component	Result	Code	Units
Copper	0.40	U	ug/L
Nickel	0.50	U	ug/L

Reference Method: EPA 300.0
Batch ID: P360572

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361007

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361012

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360673

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360674

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360869

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	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 353.2 Rev. 2.0
Batch ID: P360780

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360688

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360485

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360486

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B
Batch ID: P360449

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P360502

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P361098

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

Reference Method: SM 2540 C-97
Batch ID: P360949

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P360819

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P360820

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P360987

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P360905

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360680

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	99.7		P	85 - 115
Calcium	102		P	85 - 115
Iron	104		P	85 - 115
Magnesium	109		P	85 - 115
Manganese	100		P	85 - 115
Potassium	107		P	85 - 115
Sodium	102		P	85 - 115
Zinc	98.9		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360680

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	93.8		P	85 - 115
Antimony	95.1		P	85 - 115
Arsenic	98.7		P	85 - 115
Cadmium	93.8		P	85 - 115
Chromium	89.1		P	85 - 115
Copper	101		P	85 - 115
Lead	92.1		P	85 - 115
Selenium	96.0		P	85 - 115
Silver	100		P	85 - 115
Thallium	94.9		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P361042

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

Reference Method: EPA 300.0
Batch ID: P360572

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361007

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361012

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360673

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360674

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: P360869

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.2		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 353.2 Rev. 2.0
Batch ID: P360780

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360688

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360485

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: P360486

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

Reference Method: SM 2120 B
Batch ID: P360449

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	103		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B
Batch ID: P360502

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P361098

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P360987

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.8		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P360905

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.5		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360680

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2070118	Barium	102	101	P/P	80 - 120
2070118	Calcium	102		P	80 - 120
2070118	Iron	110	106	P/P	80 - 120
2070118	Magnesium	112	108	P/P	80 - 120
2070118	Manganese	103	101	P/P	80 - 120
2070118	Potassium	108	108	P/P	80 - 120
2070118	Sodium	102		P	80 - 120
2070118	Zinc	102	101	P/P	80 - 120
2070228	Barium	101		P	80 - 120
2070228	Calcium	100		P	80 - 120
2070228	Iron	108		P	80 - 120
2070228	Magnesium	99.7		P	80 - 120
2070228	Manganese	101		P	80 - 120
2070228	Potassium	103		P	80 - 120
2070228	Sodium	103		P	80 - 120
2070228	Zinc	98.9		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360680

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2070118	Aluminum	93.5	92.6	P/P	80 - 120
2070118	Antimony	94.7	94.4	P/P	80 - 120
2070118	Arsenic	94.8	94.3	P/P	80 - 120
2070118	Cadmium	96.8	94.3	P/P	80 - 120
2070118	Chromium	89.1	88.6	P/P	80 - 120
2070118	Copper	98.8	97.9	P/P	80 - 120
2070118	Lead	92.6	90.6	P/P	80 - 120
2070118	Selenium	93.7	93.4	P/P	80 - 120
2070118	Silver	99.0	98.8	P/P	80 - 120
2070118	Thallium	96.8	95.0	P/P	80 - 120
2070228	Aluminum	92.4		P	80 - 120
2070228	Antimony	94.8		P	80 - 120
2070228	Arsenic	96.5		P	80 - 120
2070228	Cadmium	94.8		P	80 - 120
2070228	Chromium	88.3		P	80 - 120
2070228	Copper	94.1		P	80 - 120
2070228	Lead	92.2		P	80 - 120
2070228	Selenium	73.0		F	80 - 120
2070228	Silver	98.7		P	80 - 120
2070228	Thallium	96.0		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P361042

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071612	Copper	98.4		P	80 - 120
2071612	Nickel	99.5		P	80 - 120
2071886	Copper	98.0	97.7	P/P	80 - 120
2071886	Nickel	99.1	99.7	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0
Batch ID: P360572

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069080	Bromide	102	102	P/P	90 - 110
2070063	Bromide	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361007

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069795	Chloride	100		P	90 - 110
2069948	Chloride	98.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361012

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069795	Sulfate	100		P	90 - 110
2069948	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360673

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069950	Ammonia-N	97.6	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360674

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2070066	Ammonia-N	101	93.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360869

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2070042	Kjeldahl Nitrogen	99.6	101	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 353.2 Rev. 2.0
Batch ID: P360780

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2070065	NO2NO3-N	94.8	95.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360688

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2070048	Total-P	106	105	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360485

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2070043	O-Phosphate-P	97.7	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360486

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2070073	O-Phosphate-P	95.4	96.6	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P360987

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2070301	Fluoride	97.3	97.3	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P360905

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069812	Organic Carbon	95.5	96.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P360457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2070051	Turbidity	1.25	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360680

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2070118	Barium	1.30	Spike	P	0 - 20
2070118	Calcium	0.00327	Spike	P	0 - 20
2070118	Iron	2.94	Spike	P	0 - 20
2070118	Magnesium	2.29	Spike	P	0 - 20
2070118	Manganese	1.36	Spike	P	0 - 20
2070118	Potassium	0.464	Spike	P	0 - 20
2070118	Sodium	0.471	Spike	P	0 - 20
2070118	Zinc	1.47	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360680

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2070118	Aluminum	0.843	Spike	P	0 - 20
2070118	Antimony	0.359	Spike	P	0 - 20
2070118	Arsenic	0.569	Spike	P	0 - 20
2070118	Cadmium	2.62	Spike	P	0 - 20
2070118	Chromium	0.495	Spike	P	0 - 20
2070118	Copper	0.859	Spike	P	0 - 20
2070118	Lead	2.15	Spike	P	0 - 20
2070118	Selenium	0.307	Spike	P	0 - 20
2070118	Silver	0.287	Spike	P	0 - 20
2070118	Thallium	1.90	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P361042

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071886	Copper	0.179	Spike	P	0 - 20
2071886	Nickel	0.597	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P360572

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069080	Bromide	0.0588	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069795	Chloride	1.21	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361012

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069795	Sulfate	1.04	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360673

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069950	Ammonia-N	3.00	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360674

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2070066	Ammonia-N	6.04	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360869

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2070042	Kjeldahl Nitrogen	1.32	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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360780

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2070065	NO2NO3-N	0.917	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360688

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2070048	Total-P	0.723	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360485

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2070043	O-Phosphate-P	1.83	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360486

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2070073	O-Phosphate-P	1.09	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P360449

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2070044	Color (true)	0.0510	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P360502

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2070128	Color (true)	3.42	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P361098

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2070301	Total Alkalinity	0.430	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P360949

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2070015	TDS	0.601	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P360987

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2070301	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P360905

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069812	Organic Carbon	0.932	Spike	P	0 - 20

Quality Assurance Report

Precision

* 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: A90017

Included Lab Sample IDs: 2070062, 2070063, 2070064, 2070071, 2070074

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A90024

Included Lab Sample IDs: 2070068, 2070069, 2070070, 2070073, 2070076

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.1	97.9	P/P	90 - 110
O-Phosphate-P	99.0	98.7	P/P	90 - 110
O-Phosphate-P	99.1	99.0	P/P	90 - 110

Reference Method: EPA 300.0

Run ID: A90025

Included Lab Sample IDs: 2070062, 2070063, 2070064

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	103	101	P/P	90 - 110
Bromide	98.2	103	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A90035

Included Lab Sample IDs: 2070071, 2070074

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	103	P/P	90 - 115
Color (true)	103	104	P/P	90 - 115

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A90071

Included Lab Sample IDs: 2070071, 2070074

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A90097

Included Lab Sample IDs: 2070065, 2070066, 2070067, 2070072, 2070075

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A90128

Included Lab Sample IDs: 2070065, 2070066, 2070067, 2070072, 2070075

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A90140

Included Lab Sample IDs: 2070085, 2070086, 2070087, 2070088

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	101	P/P	90 - 110
Calcium	101	100	P/P	90 - 110
Iron	101	101	P/P	90 - 110
Magnesium	102	102	P/P	90 - 110
Manganese	103	104	P/P	90 - 110
Potassium	100	100	P/P	90 - 110
Sodium	102	103	P/P	90 - 110
Zinc	101	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A90170

Included Lab Sample IDs: 2070085, 2070086, 2070087, 2070088

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	94.5	95.2	P/P	90 - 110
Antimony	94.7	94.8	P/P	90 - 110
Arsenic	96.2	93.9	P/P	90 - 110
Cadmium	94.2	95.7	P/P	90 - 110
Chromium	93.4	94.6	P/P	90 - 110
Lead	93.1	94.0	P/P	90 - 110
Selenium	94.7	95.3	P/P	90 - 110
Silver	100	101	P/P	90 - 110
Thallium	91.2	92.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A90182

Included Lab Sample IDs: 2070065, 2070066, 2070067, 2070072, 2070075

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

Reference Method: SM 5310 B-00

Run ID: A90186

Included Lab Sample IDs: 2070065, 2070066, 2070067, 2070072, 2070075

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.7	95.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A90190

Included Lab Sample IDs: 2070065, 2070066, 2070067, 2070072

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.7	97.7	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A90207

Included Lab Sample IDs: 2070085, 2070086, 2070087

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A90207

Included Lab Sample IDs: 2070085, 2070086, 2070087

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	96.8	93.9	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A90218

Included Lab Sample IDs: 2070062, 2070063, 2070064, 2070071, 2070074

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A90224

Included Lab Sample IDs: 2070085

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	99.7	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A90244

Included Lab Sample IDs: 2070075

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

Reference Method: SM 2320 B-97

Run ID: A90248

Included Lab Sample IDs: 2070062, 2070063, 2070064, 2070071, 2070074

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A90333

Included Lab Sample IDs: 2070085, 2070086, 2070087, 2070088

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	101	99.7	P/P	90 - 110
Nickel	100	101	P/P	90 - 110
Nickel	101	99.6	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 SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						1.25	
EPA 200.7 Rev. 4.4	Barium	99.7	102	101	101			1.30
	Calcium	102	102	100				0.0032
	Iron	104	110	106	108			2.94
	Magnesium	109	112	108	99.7			2.29
	Manganese	100	103	101	101			1.36
	Potassium	107	108	108	103			0.464
	Sodium	102	102	103				0.471
	Zinc	98.9	102	101	98.9			1.47
EPA 200.8 Rev. 5.4	Aluminum	93.8	93.5	92.6	92.4			0.843
	Antimony	95.1	94.7	94.4	94.8			0.359
	Arsenic	98.7	94.8	94.3	96.5			0.569
	Cadmium	93.8	96.8	94.3	94.8			2.62
	Chromium	89.1	89.1	88.6	88.3			0.495
	Copper	101	98.8	97.9	94.1			0.859
	Copper	101	98.4	98.0	97.7			0.179
	Lead	92.1	92.2	92.6	90.6			2.15
	Nickel	101	99.5	99.1	99.7			0.597
	Selenium	96.0	93.7	93.4	73.0			0.307
	Silver	100	99.0	98.8	98.7			0.287
	Thallium	94.9	96.8	95.0	96.0			1.90
EPA 300.0	Bromide	100	102	102	103			0.0588
EPA 300.0 Rev. 2.1	Chloride	99.5	100	98.6			1.21	
	Sulfate	101	100	100			1.04	
EPA 350.1 Rev. 2.0	Ammonia-N	105	97.6	102				3.00
	Ammonia-N	101	101	93.4				6.04
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.2	99.6	101				1.32
	Kjeldahl Nitrogen	101	99.5	94.0				5.19
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	98.5	94.8	95.8				0.917
EPA 365.1 Rev. 2.0	Total-P	104	106	105				0.723
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.4	97.7	99.5				1.83
	O-Phosphate-P	100	95.4	96.6				1.09
SM 2120 B	Color (true)	103					0.0510	
	Color (true)	101					3.42	
SM 2320 B-97	Total Alkalinity	101					0.430	
SM 2540 C-97	TDS						0.601	
SM 4500 F-C-97	Fluoride	97.8	97.3	97.3				0.0
SM 5310 B-00	Organic Carbon	98.5	95.5	96.5				0.932

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2070062, 2070063, 2070064, 2070071, 2070074
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2070085, 2070086, 2070087, 2070088
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2070085, 2070086, 2070087, 2070088
EPA 300.0 / E31780	Bromide in aqueous matrices	2070062, 2070063, 2070064
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2070071, 2070074
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2070071, 2070074

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2070065, 2070066, 2070067, 2070072, 2070075
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2070065, 2070066, 2070067, 2070072, 2070075
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2070065, 2070066, 2070067, 2070072, 2070075
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2070065, 2070066, 2070067, 2070072, 2070075
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2070068, 2070069, 2070070, 2070073, 2070076
SM 2120 B / E31780	True Color measured at 450 nm	2070071, 2070074
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2070062, 2070063, 2070064, 2070071, 2070074
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2070071, 2070074
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2070062, 2070063, 2070064, 2070071, 2070074
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2070062, 2070063, 2070064, 2070071, 2070074
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2070065, 2070066, 2070067, 2070072, 2070075

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	03/14/2019			03/14/2019 17:11	Adrian Shelby	2070062, 2070063, 2070064, 2070071, 2070074
EPA 200.7 Rev. 4.4	03/14/2019	03/19/2019 15:45	Elliott D. Healy	03/20/2019 17:53	Vijayalakshmi Reddy	2070085
	03/14/2019	03/19/2019 15:45	Elliott D. Healy	03/20/2019 17:58	Vijayalakshmi Reddy	2070086
	03/14/2019	03/19/2019 15:45	Elliott D. Healy	03/20/2019 18:03	Vijayalakshmi Reddy	2070087
	03/14/2019	03/19/2019 15:45	Elliott D. Healy	03/20/2019 18:07	Vijayalakshmi Reddy	2070088
EPA 200.8 Rev. 5.4	03/14/2019	03/19/2019 15:45	Elliott D. Healy	03/21/2019 20:21	Robert K Palmer	2070085
	03/14/2019	03/19/2019 15:45	Elliott D. Healy	03/21/2019 20:30	Robert K Palmer	2070086
	03/14/2019	03/19/2019 15:45	Elliott D. Healy	03/21/2019 20:40	Robert K Palmer	2070087
	03/14/2019	03/19/2019 15:45	Elliott D. Healy	03/21/2019 20:50	Robert K Palmer	2070088
	03/14/2019	03/19/2019 15:45	Elliott D. Healy	03/22/2019 15:13	Robert K Palmer	2070085
	03/14/2019	03/19/2019 15:45	Elliott D. Healy	03/22/2019 15:19	Robert K Palmer	2070086
	03/14/2019	03/19/2019 15:45	Elliott D. Healy	03/22/2019 15:25	Robert K Palmer	2070087
	03/14/2019	03/19/2019 15:45	Elliott D. Healy	03/25/2019 17:15	Robert K Palmer	2070085
	03/14/2019	03/26/2019 14:35	Elliott D. Healy	03/29/2019 18:29	Robert K Palmer	2070085
	03/14/2019	03/26/2019 14:35	Elliott D. Healy	03/29/2019 18:39	Robert K Palmer	2070086
	03/14/2019	03/26/2019 14:35	Elliott D. Healy	03/29/2019 18:48	Robert K Palmer	2070087
	03/14/2019	03/26/2019 14:35	Elliott D. Healy	03/29/2019 19:18	Robert K Palmer	2070088
EPA 300.0	03/14/2019			03/16/2019 22:06	Lipi Saha	2070063
	03/14/2019			03/17/2019 02:56	Lipi Saha	2070062
	03/14/2019			03/17/2019 03:13	Lipi Saha	2070064
EPA 300.0 Rev. 2.1	03/14/2019			03/22/2019 02:08	Lipi Saha	2070071
	03/14/2019			03/22/2019 02:20	Lipi Saha	2070074
EPA 350.1 Rev. 2.0	03/14/2019			03/19/2019 11:46	Ping Hua	2070065
	03/14/2019			03/19/2019 11:48	Ping Hua	2070072
	03/14/2019			03/19/2019 11:58	Ping Hua	2070066
	03/14/2019			03/19/2019 12:03	Ping Hua	2070067
	03/14/2019			03/19/2019 12:07	Ping Hua	2070075
EPA 351.2 Rev. 2.0	03/14/2019	03/21/2019 11:45	Adrian Shelby	03/22/2019 10:00	Joseph Suarez	2070065
	03/14/2019	03/21/2019 11:45	Adrian Shelby	03/22/2019 10:01	Joseph Suarez	2070066
	03/14/2019	03/21/2019 11:45	Adrian Shelby	03/22/2019 10:03	Joseph Suarez	2070067
	03/14/2019	03/21/2019 11:45	Adrian Shelby	03/22/2019 10:05	Joseph Suarez	2070072
	03/14/2019	03/25/2019 10:45	Adrian Shelby	03/26/2019 15:25	Joseph Suarez	2070075
EPA 353.2 Rev. 2.0	03/14/2019			03/20/2019 12:01	Lauren Lees	2070065
	03/14/2019			03/20/2019 12:03	Lauren Lees	2070066
	03/14/2019			03/20/2019 12:04	Lauren Lees	2070067
	03/14/2019			03/20/2019 12:05	Lauren Lees	2070072
	03/14/2019			03/20/2019 12:06	Lauren Lees	2070075
EPA 365.1 Rev. 2.0	03/14/2019	03/19/2019 13:40	Sima Feizi	03/22/2019 11:10	Rosalyn Ballman	2070065, 2070066
	03/14/2019	03/19/2019 13:40	Sima Feizi	03/22/2019 11:11	Rosalyn Ballman	2070067

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	03/14/2019	03/19/2019 13:40	Sima Feizi	03/22/2019 11:19	Rosalyn Ballman	2070072
	03/14/2019	03/19/2019 13:40	Sima Feizi	03/22/2019 11:20	Rosalyn Ballman	2070075
EPA 365.1 Rev. 2.0 dissolved	03/14/2019			03/14/2019 15:53	Jhamieka S. Greenwood	2070073
	03/14/2019			03/14/2019 16:01	Jhamieka S. Greenwood	2070076
	03/14/2019			03/14/2019 16:02	Jhamieka S. Greenwood	2070069
	03/14/2019			03/14/2019 16:03	Jhamieka S. Greenwood	2070070
	03/14/2019			03/14/2019 17:09	Jhamieka S. Greenwood	2070068
SM 2120 B	03/14/2019			03/14/2019 17:28	Chelsea Hernandez	2070071
	03/14/2019			03/14/2019 17:32	Chelsea Hernandez	2070074
SM 2320 B-97	03/14/2019			03/26/2019 18:17	Dale L. Simmons	2070063
	03/14/2019			03/26/2019 18:25	Dale L. Simmons	2070064
	03/14/2019			03/26/2019 18:34	Dale L. Simmons	2070071
	03/14/2019			03/26/2019 18:41	Dale L. Simmons	2070074
	03/14/2019			03/26/2019 19:14	Dale L. Simmons	2070062
SM 2540 C-97	03/14/2019			03/18/2019 15:10	Mariam Hanna	2070071, 2070074
SM 2540 D-97	03/14/2019			03/18/2019 14:45	Mariam Hanna	2070062, 2070063, 2070064, 2070071, 2070074
SM 4500 F-C-97	03/14/2019			03/25/2019 03:52	Dale L. Simmons	2070063
	03/14/2019			03/25/2019 04:03	Dale L. Simmons	2070064
	03/14/2019			03/25/2019 04:14	Dale L. Simmons	2070071
	03/14/2019			03/25/2019 04:28	Dale L. Simmons	2070074
	03/14/2019			03/25/2019 05:35	Dale L. Simmons	2070062
SM 5310 B-00	03/14/2019			03/21/2019 08:54	Julia Storbeck	2070065
	03/14/2019			03/21/2019 09:08	Julia Storbeck	2070066
	03/14/2019			03/21/2019 09:24	Julia Storbeck	2070067
	03/14/2019			03/21/2019 09:38	Julia Storbeck	2070072
	03/14/2019			03/21/2019 10:04	Julia Storbeck	2070075