

Chemical Analysis Report

NE-DIST-2019-04-09-02

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

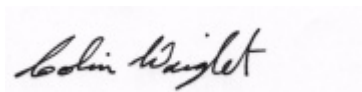
Event Description: **Nassau East Boat**
Request ID: **RQ-2019-04-01-15**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Colin Wright, Program Administrator

Date Certified: 24-APR-2019 16:08

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular 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 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: THOMAS CR 6.0 MI BELOW CITY PRISON

Collection Date/Time: 04/08/2019 10:20

Field ID: G4NE0008

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2076435	EPA 180.1 Rev. 2.0	Turbidity	5.6		NTU	P361818	
	EPA 300.0	Bromide	0.25		mg Br/L	P361971	
	SM 2320 B-97	Total Alkalinity	17		mg CaCO3/L	P362173	RPD
	SM 2540 D-97	TSS	9	I	mg/L	P362237	
	SM 4500 F-C-97	Fluoride	0.066	I	mg F/L	P362179	
2076438	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P362283	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P362337	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.01	I	mg N/L	P362328	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P362145	
	SM 5310 B-00	Organic Carbon	27		mg C/L	P361976	
2076441	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.080		mg P/L	P361837	
2076474	EPA 200.7 Rev. 4.4	Iron	640		ug/L	P361813	
		Manganese	12.2		ug/L	P361813	
		Zinc	5.0	U	ug/L	P361813	
	EPA 200.8 Rev. 5.4	Aluminum	375		ug/L	P361813	
		Antimony	0.050	U	ug/L	P361813	
		Arsenic	0.72		ug/L	P361813	
		Cadmium	0.020	U	ug/L	P361813	
		Chromium	0.87	I	ug/L	P361813	
		Copper	0.50	I	ug/L	P361813	
		Lead	0.47		ug/L	P361813	
		Nickel	0.65	I	ug/L	P361813	
		Selenium	0.20	U	ug/L	P361813	
		Silver	0.010	U	ug/L	P361813	
		Thallium	0.10	U	ug/L	P361813	

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: THOMAS CR 4 MI BELOW CITY PRISON

Collection Date/Time: 04/08/2019 11:00

Field ID: 19020033

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2076447	EPA 180.1 Rev. 2.0	Turbidity	5.4		NTU	P361819	
	EPA 300.0	Bromide	0.082		mg Br/L	P362586	
	SM 2320 B-97	Total Alkalinity	14		mg CaCO3/L	P362173	RPD
	SM 2540 D-97	TSS	10		mg/L	P362237	
	SM 4500 F-C-97	Fluoride	0.056	I	mg F/L	P362179	
2076448	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P362283	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P362337	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.023		mg N/L	P362328	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P362145	
	SM 5310 B-00	Organic Carbon	25		mg C/L	P361976	
2076449	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.093		mg P/L	P361838	
2076478	EPA 200.7 Rev. 4.4	Iron	450		ug/L	P361813	
		Manganese	9.7		ug/L	P361813	
		Zinc	7.9	I	ug/L	P361813	
	EPA 200.8 Rev. 5.4	Aluminum	271		ug/L	P361813	
		Antimony	0.050	U	ug/L	P361813	
		Arsenic	0.53		ug/L	P361813	
		Cadmium	0.020	U	ug/L	P361813	
		Chromium	0.55	I	ug/L	P361813	
		Copper	0.47	I	ug/L	P361813	
		Lead	0.48		ug/L	P361813	
		Nickel	0.59	I	ug/L	P361813	
		Selenium	0.20	U	ug/L	P361813	
		Silver	0.010	U	ug/L	P361813	
		Thallium	0.10	U	ug/L	P361813	

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.

EPA 350.1 Rev. 2.0: The result was confirmed on 04/15/2019.

Sample Location: THOMAS CR 4 MI BELOW CITY PRISON

Collection Date/Time: 04/08/2019 13:15

Field ID: FB 04022019

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2076436	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P361818	
	EPA 300.0	Bromide	0.013	U	mg Br/L	P361971	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P362173	RPD
	SM 2540 D-97	TSS	2	U	mg/L	P362237	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P362179	
2076439	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P362283	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P362337	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P362328	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P362390	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P361976	
2076442	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P361838	
2076475	EPA 200.7 Rev. 4.4	Iron	30	U	ug/L	P362088	
		Manganese	1.0	U	ug/L	P361813	
		Zinc	5.0	U	ug/L	P361813	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P361813	
		Antimony	0.050	U	ug/L	P361813	
		Arsenic	0.050	U	ug/L	P361813	
		Cadmium	0.020	U	ug/L	P361813	
		Chromium	0.40	U	ug/L	P361813	
		Copper	0.40	U	ug/L	P361813	
		Lead	0.20	U	ug/L	P361813	
		Nickel	0.50	U	ug/L	P361813	
		Selenium	0.20	U	ug/L	P361813	
		Silver	0.010	U	ug/L	P361813	
		Thallium	0.10	U	ug/L	P361813	

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 04/17/2019.

Sample Location: THOMAS CR 4 MI BELOW CITY PRISON

Collection Date/Time: 04/08/2019 11:10

Field ID: 19020033DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2076437	EPA 180.1 Rev. 2.0	Turbidity	4.7		NTU	P361818	
	EPA 300.0	Bromide	0.075		mg Br/L	P361971	
	SM 2320 B-97	Total Alkalinity	14		mg CaCO3/L	P362173	RPD
	SM 2540 D-97	TSS	9	I	mg/L	P362237	
	SM 4500 F-C-97	Fluoride	0.056	I	mg F/L	P362179	
2076440	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P362283	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.97		mg N/L	P362337	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.022		mg N/L	P362328	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P362145	
	SM 5310 B-00	Organic Carbon	27		mg C/L	P361976	
2076443	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.091		mg P/L	P361838	
2076476	EPA 200.7 Rev. 4.4	Iron	490		ug/L	P361813	
		Manganese	9.9		ug/L	P361813	
		Zinc	5.0	U	ug/L	P361813	
	EPA 200.8 Rev. 5.4	Aluminum	315		ug/L	P361813	
		Antimony	0.050	U	ug/L	P361813	
		Arsenic	0.53		ug/L	P361813	
		Cadmium	0.020	U	ug/L	P361813	
		Chromium	0.66	I	ug/L	P361813	
		Copper	0.44	I	ug/L	P361813	
		Lead	0.51		ug/L	P361813	
		Nickel	0.56	I	ug/L	P361813	
		Selenium	0.20	U	ug/L	P361813	
		Silver	0.010	U	ug/L	P361813	
		Thallium	0.10	U	ug/L	P361813	

Ref. Method and Comment:

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

EPA 350.1 Rev. 2.0: The result was confirmed on 04/15/2019.

Sample Location: ALLIGATOR CR AT HOBBS LANDING

Collection Date/Time: 04/08/2019 13:20

Field ID: G4NE0280

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2076444	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P361819	
	EPA 300.0 Rev. 2.1	Chloride	67		mg Cl/L	P362267	
		Sulfate	11		mg SO4/L	P362270	
		Color (true)	260		PCU	P361860	
	SM 2320 B-97	Total Alkalinity	29		mg CaCO3/L	P362173	RPD
	SM 2540 C-97	TDS	205		mg/L	P362514	
	SM 2540 D-97	TSS	6	I	mg/L	P362231	
	SM 4500 F-C-97	Fluoride	0.082	I	mg F/L	P362179	
2076445	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P362283	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P362337	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P362328	
	EPA 365.1 Rev. 2.0	Total-P	0.085		mg P/L	P362145	
	SM 5310 B-00	Organic Carbon	29		mg C/L	P361976	
2076446	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.044		mg P/L	P361838	
2076477	EPA 200.7 Rev. 4.4	Barium	18.1		ug/L	P361813	
		Calcium	12.9		mg/L	P361813	
		Iron	440		ug/L	P361813	
		Magnesium	7.99		mg/L	P361813	
		Potassium	1.9		mg/L	P361813	
		Sodium	39.5		mg/L	P361813	
		Zinc	5.0	U	ug/L	P361813	
	EPA 200.8 Rev. 5.4	Aluminum	210		ug/L	P361813	
		Antimony	0.050	U	ug/L	P361813	
		Arsenic	0.54		ug/L	P361813	
		Boron**	37.9		ug/L	P361813	
		Cadmium	0.020	U	ug/L	P361813	
		Chromium	0.59	I	ug/L	P361813	
		Copper	0.40	U	ug/L	P361813	
		Lead	0.31	I	ug/L	P361813	
		Nickel	0.51	I	ug/L	P361813	
		Selenium	0.20	U	ug/L	P361813	
		Silver	0.010	U	ug/L	P361813	
		Thallium	0.10	U	ug/L	P361813	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: 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.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P361818

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P361819

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P361813

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 200.7 Rev. 4.4
Batch ID: P362088

Component	Result	Code	Units
Iron	30	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P361813

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	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
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0
Batch ID: P361971

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0
Batch ID: P362586

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P362267

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P362270

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P362283

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P362337

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P362328

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P362145

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P362390

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P361837

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: P361838

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

Reference Method: SM 2120 B
Batch ID: P361860

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P362173

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

Reference Method: SM 2540 C-97
Batch ID: P362514

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P362231

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P362237

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P362179

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P361976

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: P361813

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	103		P	85 - 115
Calcium	102		P	85 - 115
Iron	108		P	85 - 115
Magnesium	104		P	85 - 115
Manganese	107		P	85 - 115
Potassium	100		P	85 - 115
Sodium	97.3		P	85 - 115
Zinc	105		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P362088

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P361813

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.9		P	85 - 115
Antimony	96.3		P	85 - 115
Arsenic	103		P	85 - 115
Boron	100		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	94.4		P	85 - 115
Copper	99.7		P	85 - 115
Lead	96.3		P	85 - 115
Nickel	101		P	85 - 115
Selenium	102		P	85 - 115
Silver	96.0		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P361971

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	94.7		P	90 - 110

Reference Method: EPA 300.0
Batch ID: P362586

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P362267

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P362270

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P362283

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P362337

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P362328

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: P362145

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P362390

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P361837

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P361838

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

Reference Method: SM 2120 B
 Batch ID: P361860

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.9		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P362173

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P362179

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.5		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P361976

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P361813

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2075767	Barium	98.2	98.1	P/P	80 - 120
2075767	Iron	104	105	P/P	80 - 120
2075767	Magnesium	103		P	80 - 120
2075767	Manganese	103	104	P/P	80 - 120
2075767	Potassium	101		P	80 - 120
2075767	Sodium	98.5		P	80 - 120
2075767	Zinc	103	103	P/P	80 - 120
2076521	Barium	103		P	80 - 120
2076521	Calcium	101		P	80 - 120
2076521	Iron	107		P	80 - 120
2076521	Magnesium	102		P	80 - 120
2076521	Manganese	107		P	80 - 120
2076521	Potassium	100		P	80 - 120
2076521	Sodium	101		P	80 - 120
2076521	Zinc	104		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P362088

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2076730	Iron	102	103	P/P	80 - 120
2076732	Iron	103		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P361813

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2075767	Aluminum	98.9	100	P/P	80 - 120
2075767	Antimony	99.6	100	P/P	80 - 120
2075767	Arsenic	106	106	P/P	80 - 120
2075767	Boron	102	106	P/P	80 - 120
2075767	Cadmium	104	104	P/P	80 - 120
2075767	Chromium	91.2	92.1	P/P	80 - 120
2075767	Copper	96.7	97.3	P/P	80 - 120
2075767	Lead	97.9	99.3	P/P	80 - 120
2075767	Nickel	97.5	98.6	P/P	80 - 120
2075767	Selenium	105	106	P/P	80 - 120
2075767	Silver	94.5	95.1	P/P	80 - 120
2075767	Thallium	105	106	P/P	80 - 120
2076521	Aluminum	99.3		P	80 - 120
2076521	Antimony	98.7		P	80 - 120
2076521	Arsenic	103		P	80 - 120
2076521	Boron	103		P	80 - 120
2076521	Cadmium	103		P	80 - 120
2076521	Chromium	94.5		P	80 - 120
2076521	Copper	96.3		P	80 - 120
2076521	Lead	97.3		P	80 - 120
2076521	Nickel	101		P	80 - 120
2076521	Selenium	101		P	80 - 120
2076521	Silver	96.3		P	80 - 120
2076521	Thallium	104		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0
Batch ID: P361971

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2075727	Bromide	91.7	93.4	P/P	90 - 110
2075728	Bromide	92.9		P	90 - 110

Reference Method: EPA 300.0
Batch ID: P362586

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2076447	Bromide	102	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P362267

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2076390	Chloride	106		P	90 - 110
2076511	Chloride	108		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P362270

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2076390	Sulfate	107		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P362283

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2076393	Ammonia-N	102	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P362337

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2076445	Kjeldahl Nitrogen	104	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P362328

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2076378	NO2NO3-N	97.0	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P362145

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2076395	Total-P	98.6	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P362390

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2077665	Total-P	95.9	98.0	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P361837

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2076398	O-Phosphate-P	97.5	98.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P361838

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2076493	O-Phosphate-P	95.3	96.2	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P362179

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2076930	Fluoride	100	100	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P361976

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2076492	Organic Carbon	102	95.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P361818

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2076375	Turbidity	1.46	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P361819

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2076488	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P361813

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2075767	Barium	0.168	Spike	P	0 - 20
2075767	Calcium	1.64	Spike	P	0 - 20
2075767	Iron	0.434	Spike	P	0 - 20
2075767	Magnesium	0.752	Spike	P	0 - 20
2075767	Manganese	0.513	Spike	P	0 - 20
2075767	Potassium	0.514	Spike	P	0 - 20
2075767	Sodium	0.0134	Spike	P	0 - 20
2075767	Zinc	0.332	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P362088

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2076730	Iron	0.905	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P361813

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2075767	Aluminum	1.15	Spike	P	0 - 20
2075767	Antimony	0.649	Spike	P	0 - 20
2075767	Arsenic	0.477	Spike	P	0 - 20
2075767	Boron	2.55	Spike	P	0 - 20
2075767	Cadmium	0.240	Spike	P	0 - 20
2075767	Chromium	0.917	Spike	P	0 - 20
2075767	Copper	0.656	Spike	P	0 - 20
2075767	Lead	1.44	Spike	P	0 - 20
2075767	Nickel	1.03	Spike	P	0 - 20
2075767	Selenium	0.456	Spike	P	0 - 20
2075767	Silver	0.611	Spike	P	0 - 20
2075767	Thallium	1.52	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0
Batch ID: P361971

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2075727	Bromide	1.78	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P362586

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2076447	Bromide	1.41	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P362267

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2076390	Chloride	9.70	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P362270

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2076390	Sulfate	9.97	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P362283

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2076393	Ammonia-N	3.10	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P362337

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2076445	Kjeldahl Nitrogen	0.380	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P362328

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2076378	NO2NO3-N	1.03	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P362145

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2076395	Total-P	0.764	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P362390

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2077665	Total-P	2.15	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P361837

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2076398	O-Phosphate-P	0.613	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P361838

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2076493	O-Phosphate-P	0.745	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P361860

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2076367	Color (true)	0.406	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P362173

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2076930	Total Alkalinity	8.08	Sample	F	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P362514

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2076387	TDS	5.12	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P362179

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2076930	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P361976

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2076492	Organic Carbon	3.46	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: A90551

Included Lab Sample IDs: 2076435, 2076436, 2076437, 2076444, 2076447

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A90555

Included Lab Sample IDs: 2076441, 2076442, 2076443, 2076446, 2076449

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.2	98.4	P/P	90 - 110
O-Phosphate-P	99.2	98.2	P/P	90 - 110

Reference Method: EPA 300.0

Run ID: A90561

Included Lab Sample IDs: 2076435, 2076436, 2076437

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	93.6	93.4	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A90564

Included Lab Sample IDs: 2076444

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A90595

Included Lab Sample IDs: 2076474, 2076475, 2076476, 2076477, 2076478

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	102	P/P	90 - 110
Calcium	102	102	P/P	90 - 110
Iron	105	104	P/P	90 - 110
Magnesium	104	103	P/P	90 - 110
Manganese	104	106	P/P	95 - 105
Manganese	105	105	P/P	90 - 110
Potassium	100	99.6	P/P	90 - 110
Sodium	98.2	100	P/P	90 - 110
Zinc	101	104	P/P	95 - 105
Zinc	103	103	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A90618

Included Lab Sample IDs: 2076438, 2076439, 2076440, 2076445, 2076448

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A90703

Included Lab Sample IDs: 2076435, 2076436, 2076437, 2076444, 2076447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	97.7	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A90703

Included Lab Sample IDs: 2076435, 2076436, 2076437, 2076444, 2076447

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A90725

Included Lab Sample IDs: 2076475

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	99.1	99.4	P/P	95 - 105

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A90760

Included Lab Sample IDs: 2076444

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.5	103	P/P	90 - 110
Sulfate	99.7	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A90762

Included Lab Sample IDs: 2076438, 2076439, 2076440, 2076445, 2076448

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A90770

Included Lab Sample IDs: 2076438, 2076440, 2076445, 2076448

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A90779

Included Lab Sample IDs: 2076438, 2076439, 2076440, 2076445, 2076448

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	98.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A90808

Included Lab Sample IDs: 2076474, 2076475, 2076476, 2076477, 2076478

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A90808

Included Lab Sample IDs: 2076474, 2076475, 2076476, 2076477, 2076478

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.9	101	P/P	90 - 110
Antimony	96.1	98.6	P/P	90 - 110
Antimony	97.4	100	P/P	90 - 110
Arsenic	98.5	102	P/P	90 - 110
Arsenic	99.8	102	P/P	90 - 110
Boron	99.6	101	P/P	90 - 110
Cadmium	98.1	100	P/P	90 - 110
Cadmium	99.0	102	P/P	90 - 110
Chromium	98.4	101	P/P	90 - 110
Chromium	98.4	99.6	P/P	90 - 110
Copper	97.8	99.8	P/P	90 - 110
Copper	98.7	101	P/P	90 - 110
Lead	94.3	96.1	P/P	90 - 110
Lead	95.6	97.8	P/P	90 - 110
Nickel	98.5	101	P/P	90 - 110
Nickel	98.8	101	P/P	90 - 110
Selenium	101	104	P/P	90 - 110
Selenium	99.5	103	P/P	90 - 110
Silver	94.2	96.9	P/P	90 - 110
Silver	95.8	98.3	P/P	90 - 110
Thallium	96.6	98.0	P/P	90 - 110
Thallium	98.0	99.7	P/P	90 - 110

Reference Method: EPA 300.0

Run ID: A90809

Included Lab Sample IDs: 2076447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	99.6	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A90817

Included Lab Sample IDs: 2076438, 2076439, 2076440, 2076445, 2076448

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.9	97.6	P/P	90 - 110
Kjeldahl Nitrogen	97.6	97.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A90889

Included Lab Sample IDs: 2076439

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	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 SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					1.46	
	Turbidity					0.0	
EPA 200.7 Rev. 4.4	Barium	103	98.2	98.1	103		0.168
	Calcium	102	101				1.64
	Iron	108	104	105	107		0.434
	Iron	101	102	103	103		0.905
	Magnesium	104	103	102			0.752
	Manganese	107	103	104	107		0.513
	Potassium	100	101	100			0.514
	Sodium	97.3	98.5	101			0.0134
	Zinc	105	103	103	104		0.332
EPA 200.8 Rev. 5.4	Aluminum	99.9	98.9	100	99.3		1.15
	Antimony	96.3	99.6	100	98.7		0.649
	Arsenic	103	106	106	103		0.477
	Boron	100	102	106	103		2.55
	Cadmium	100	104	104	103		0.240
	Chromium	94.4	91.2	92.1	94.5		0.917
	Copper	99.7	96.7	97.3	96.3		0.656
	Lead	96.3	97.9	99.3	97.3		1.44
	Nickel	101	97.5	98.6	101		1.03
	Selenium	102	105	106	101		0.456
	Silver	96.0	94.5	95.1	96.3		0.611
	Thallium	101	105	106	104		1.52
EPA 300.0	Bromide	94.7	91.7	93.4	92.9		1.78
	Bromide	103	102	100			1.41
EPA 300.0 Rev. 2.1	Chloride	103	106	108		9.70	
	Sulfate	105	107			9.97	
EPA 350.1 Rev. 2.0	Ammonia-N	102	102	105			3.10
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	104	103			0.380
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	97.0	98.0			1.03
EPA 365.1 Rev. 2.0	Total-P	104	98.6	99.3			0.764
	Total-P	98.5	95.9	98.0			2.15
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.5	97.5	98.1			0.613
	O-Phosphate-P	99.8	95.3	96.2			0.745
SM 2120 B	Color (true)	99.9				0.406	
SM 2320 B-97	Total Alkalinity	101				8.08	
SM 2540 C-97	TDS					5.12	
SM 4500 F-C-97	Fluoride	99.5	100	100			0.0
SM 5310 B-00	Organic Carbon	102	102	95.8			3.46

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2076435, 2076436, 2076437, 2076444, 2076447
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2076474, 2076475, 2076476, 2076477, 2076478
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2076474, 2076475, 2076476, 2076477, 2076478
EPA 300.0 / E31780	Bromide in aqueous matrices	2076435, 2076436, 2076437, 2076447
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2076444
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2076444

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2076438, 2076439, 2076440, 2076445, 2076448
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2076438, 2076439, 2076440, 2076445, 2076448
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2076438, 2076439, 2076440, 2076445, 2076448
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2076438, 2076439, 2076440, 2076445, 2076448
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2076441, 2076442, 2076443, 2076446, 2076449
SM 2120 B / E31780	True Color measured at 450 nm	2076444
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2076435, 2076436, 2076437, 2076444, 2076447
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2076444
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2076435, 2076436, 2076437, 2076444, 2076447
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2076435, 2076436, 2076437, 2076444, 2076447
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2076438, 2076439, 2076440, 2076445, 2076448

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	04/09/2019			04/09/2019 15:54	Adrian Shelby	2076435, 2076436, 2076437, 2076444, 2076447
EPA 200.7 Rev. 4.4	04/09/2019	04/09/2019 15:20	Elliott D. Healy	04/10/2019 12:18	Betina Topolski	2076475
	04/09/2019	04/09/2019 15:20	Elliott D. Healy	04/10/2019 15:25	Betina Topolski	2076474
	04/09/2019	04/09/2019 15:20	Elliott D. Healy	04/10/2019 15:32	Betina Topolski	2076476
	04/09/2019	04/09/2019 15:20	Elliott D. Healy	04/10/2019 15:39	Betina Topolski	2076477
	04/09/2019	04/09/2019 15:20	Elliott D. Healy	04/10/2019 15:47	Betina Topolski	2076478
EPA 200.8 Rev. 5.4	04/09/2019	04/15/2019 11:00	Alexander Thompson	04/15/2019 15:46	Betina Topolski	2076475
	04/09/2019	04/09/2019 15:20	Elliott D. Healy	04/17/2019 18:27	Martin Acosta	2076475
	04/09/2019	04/09/2019 15:20	Elliott D. Healy	04/17/2019 22:05	Martin Acosta	2076474
	04/09/2019	04/09/2019 15:20	Elliott D. Healy	04/17/2019 22:15	Martin Acosta	2076476
	04/09/2019	04/09/2019 15:20	Elliott D. Healy	04/17/2019 22:25	Martin Acosta	2076477
EPA 300.0	04/09/2019	04/09/2019 15:20	Elliott D. Healy	04/17/2019 22:34	Martin Acosta	2076478
	04/09/2019			04/10/2019 21:26	Lipi Saha	2076435
	04/09/2019			04/10/2019 21:43	Lipi Saha	2076436
	04/09/2019			04/10/2019 22:00	Lipi Saha	2076437
EPA 300.0 Rev. 2.1	04/09/2019			04/18/2019 14:22	Lipi Saha	2076447
EPA 350.1 Rev. 2.0	04/09/2019			04/15/2019 20:48	Julia Storbeck	2076444
	04/09/2019			04/15/2019 11:40	Ping Hua	2076438
	04/09/2019			04/15/2019 11:42	Ping Hua	2076440
	04/09/2019			04/15/2019 11:43	Ping Hua	2076448
	04/09/2019			04/15/2019 11:45	Ping Hua	2076445
EPA 351.2 Rev. 2.0	04/09/2019			04/15/2019 11:48	Ping Hua	2076439
	04/09/2019	04/17/2019 12:45	Adrian Shelby	04/18/2019 10:58	Joseph Suarez	2076438
	04/09/2019	04/17/2019 12:45	Adrian Shelby	04/18/2019 11:00	Joseph Suarez	2076439
	04/09/2019	04/17/2019 12:45	Adrian Shelby	04/18/2019 11:04	Joseph Suarez	2076440
	04/09/2019	04/17/2019 12:45	Adrian Shelby	04/18/2019 11:06	Joseph Suarez	2076445
EPA 353.2 Rev. 2.0	04/09/2019	04/17/2019 12:45	Adrian Shelby	04/18/2019 11:10	Joseph Suarez	2076448
	04/09/2019			04/17/2019 09:18	Beverly Y. Sanders	2076438
	04/09/2019			04/17/2019 09:19	Beverly Y. Sanders	2076439
	04/09/2019			04/17/2019 09:20	Beverly Y. Sanders	2076440
EPA 365.1 Rev. 2.0	04/09/2019			04/17/2019 09:21	Beverly Y. Sanders	2076445
	04/09/2019			04/17/2019 09:22	Beverly Y. Sanders	2076448
	04/09/2019	04/15/2019 13:05	Sima Feizi	04/16/2019 13:32	Rosalyn Ballman	2076438
	04/09/2019	04/15/2019 13:05	Sima Feizi	04/16/2019 13:34	Rosalyn Ballman	2076440
	04/09/2019	04/15/2019 13:05	Sima Feizi	04/16/2019 13:35	Rosalyn Ballman	2076445
EPA 365.1 Rev. 2.0 dissolved	04/09/2019	04/15/2019 13:05	Sima Feizi	04/16/2019 13:36	Rosalyn Ballman	2076448
	04/09/2019	04/18/2019 13:40	Sima Feizi	04/22/2019 13:23	Rosalyn Ballman	2076439
	04/09/2019			04/09/2019 16:53	Julia Storbeck	2076442
	04/09/2019			04/09/2019 16:55	Julia Storbeck	2076443, 2076449

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	04/09/2019			04/09/2019 17:10	Julia Storbeck	2076441
	04/09/2019			04/09/2019 17:11	Julia Storbeck	2076446
SM 2120 B	04/09/2019			04/09/2019 16:18	Mariam Hanna	2076444
SM 2320 B-97	04/09/2019			04/13/2019 12:26	Dale L. Simmons	2076435
	04/09/2019			04/13/2019 12:34	Dale L. Simmons	2076436
	04/09/2019			04/13/2019 12:50	Dale L. Simmons	2076437
	04/09/2019			04/13/2019 13:07	Dale L. Simmons	2076444
	04/09/2019			04/13/2019 13:22	Dale L. Simmons	2076447
SM 2540 C-97	04/09/2019			04/11/2019 16:14	Yijie Li	2076444
SM 2540 D-97	04/09/2019			04/11/2019 16:14	Yijie Li	2076435, 2076436, 2076437, 2076444, 2076447
SM 4500 F-C-97	04/09/2019			04/13/2019 12:26	Dale L. Simmons	2076435
	04/09/2019			04/13/2019 12:34	Dale L. Simmons	2076436
	04/09/2019			04/13/2019 12:50	Dale L. Simmons	2076437
	04/09/2019			04/13/2019 13:07	Dale L. Simmons	2076444
	04/09/2019			04/13/2019 13:22	Dale L. Simmons	2076447
SM 5310 B-00	04/09/2019			04/10/2019 17:42	Julia Storbeck	2076438
	04/09/2019			04/10/2019 17:54	Julia Storbeck	2076439
	04/09/2019			04/10/2019 18:11	Julia Storbeck	2076440
	04/09/2019			04/10/2019 18:23	Julia Storbeck	2076445
	04/09/2019			04/10/2019 18:35	Julia Storbeck	2076448