

Chemical Analysis Report

CEN-DIST-2018-02-02-02

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

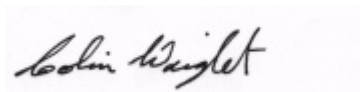
Event Description: **Dead River X4 + D&B**
Request ID: **RQ-2018-01-29-56**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
Attn: Mike Linger

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Certified by: Colin Wright, Program Administrator

Date Certified: 26-FEB-2018 15:49

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 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: DEAD RIVER @ 150M FROM LAKE EUSTIS

Collection Date/Time: 02/01/2018 11:05

Field ID: G1CE0101

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1964090	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P339263	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P339699	
		Sulfate	7.6		mg SO4/L	P339704	
	SM 2120 B	Color (true)	30	A	PCU	P339258	
	SM 2320 B-97	Total Alkalinity	89		mg CaCO3/L	P339613	
	SM 2540 C-97	TDS	183		mg/L	P339746	
	SM 2540 D-97	TSS	4	I	mg/L	P339685	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P340472	
1964094	EPA 350.1 Rev. 2.0	Ammonia-N	0.25		mg N/L	P339679	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P339275	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.031		mg N/L	P339336	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P339526	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P340071	
1964098	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P339313	
1964112	EPA 200.7 Rev. 4.4	Calcium	33.7		mg/L	P339412	
		Iron	30	I	ug/L	P339412	
		Magnesium	7.21		mg/L	P339412	
		Potassium	3.6		mg/L	P339412	
		Sodium	12.1		mg/L	P339412	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P339412	
		Arsenic	1.26		ug/L	P339412	
		Cadmium	0.020	U	ug/L	P339412	
		Chromium	0.40	U	ug/L	P339412	
		Copper	0.26	I	ug/L	P339412	
		Lead	0.12	I	ug/L	P339412	
		Nickel	0.20	U	ug/L	P339412	
		Silver	0.010	U	ug/L	P339412	

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: DEAD RIVER @ 50M S OF US441

Collection Date/Time: 02/01/2018 10:51

Field ID: G1CE0100

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1964091	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P339263	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P339699	
		Sulfate	7.5		mg SO4/L	P339704	
	SM 2120 B	Color (true)	30	A	PCU	P339259	
	SM 2320 B-97	Total Alkalinity	89	A	mg CaCO3/L	P339613	
	SM 2540 C-97	TDS	175		mg/L	P339746	
	SM 2540 D-97	TSS	4	I	mg/L	P339685	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P340472	
1964095	EPA 350.1 Rev. 2.0	Ammonia-N	0.24		mg N/L	P339679	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P339275	

Field ID: G1CE0100

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1964095	EPA 353.2 Rev. 2.0	NO2NO3-N	0.028		mg N/L	P339336	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P339526	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P340071	
1964099	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P339313	
1964113	EPA 200.7 Rev. 4.4	Calcium	33.1		mg/L	P339412	
		Iron	30	U	ug/L	P339412	
		Magnesium	7.07		mg/L	P339412	
		Potassium	3.5		mg/L	P339412	
		Sodium	11.9		mg/L	P339412	
		Zinc	5.0	U	ug/L	P339412	
	EPA 200.8 Rev. 5.4	Arsenic	1.23		ug/L	P339412	
		Cadmium	0.020	U	ug/L	P339412	
		Chromium	0.40	U	ug/L	P339412	
		Copper	0.24	I	ug/L	P339412	
		Lead	0.10	I	ug/L	P339412	
		Nickel	0.20	U	ug/L	P339412	
		Silver	0.010	U	ug/L	P339412	

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: DEAD RIVER @ POWER LINES

Collection Date/Time: 02/01/2018 10:39

Field ID: G1CE0056

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1964092	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P339263	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P339699	
		Sulfate	7.5		mg SO4/L	P339704	
		Color (true)	29		PCU	P339258	
	SM 2320 B-97	Total Alkalinity	89		mg CaCO3/L	P339613	
	SM 2540 C-97	TDS	168		mg/L	P339746	
	SM 2540 D-97	TSS	4	I	mg/L	P339685	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P340472	
1964096	EPA 350.1 Rev. 2.0	Ammonia-N	0.23		mg N/L	P339679	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P339277	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.027		mg N/L	P339338	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P339577	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P340071	
1964100	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P339313	
1964114	EPA 200.7 Rev. 4.4	Calcium	33.3		mg/L	P339412	
		Iron	31	I	ug/L	P339412	
		Magnesium	7.16		mg/L	P339412	
		Potassium	3.6		mg/L	P339412	
		Sodium	12.1		mg/L	P339412	
		Zinc	5.0	U	ug/L	P339412	
	EPA 200.8 Rev. 5.4	Arsenic	1.25		ug/L	P339412	

Field ID: G1CE0056

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1964114	EPA 200.8 Rev. 5.4	Cadmium	0.020	U	ug/L	P339412	
		Chromium	0.40	U	ug/L	P339412	
		Copper	0.24	I	ug/L	P339412	
		Lead	0.11	I	ug/L	P339412	
		Nickel	0.20	U	ug/L	P339412	
		Silver	0.010	U	ug/L	P339412	

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: DEAD RIVER @ POWER LINIES (2817C)
 DUPLICATE**

Collection Date/Time: 02/01/2018 10:40

Field ID: G1CE0056DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1964102	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P339263	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P339699	
		Sulfate	7.4		mg SO4/L	P339704	
	SM 2120 B	Color (true)	29		PCU	P339258	
	SM 2320 B-97	Total Alkalinity	89		mg CaCO3/L	P339613	
	SM 2540 C-97	TDS	163		mg/L	P339747	
	SM 2540 D-97	TSS	5	I	mg/L	P339686	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P340472	
1964104	EPA 350.1 Rev. 2.0	Ammonia-N	0.22		mg N/L	P339679	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P339277	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.027		mg N/L	P339338	
	EPA 365.1 Rev. 2.0	Total-P	0.019		mg P/L	P339577	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P340071	
1964106	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P339313	
1964116	EPA 200.7 Rev. 4.4	Calcium	33.8		mg/L	P339412	
		Iron	30	U	ug/L	P339412	
		Magnesium	7.27		mg/L	P339412	
		Potassium	3.6		mg/L	P339412	
		Sodium	12.2		mg/L	P339412	
		Zinc	5.0	U	ug/L	P339412	
	EPA 200.8 Rev. 5.4	Arsenic	1.26		ug/L	P339412	
		Cadmium	0.020	U	ug/L	P339412	
		Chromium	0.40	U	ug/L	P339412	
		Copper	0.26	I	ug/L	P339412	
		Lead	0.11	I	ug/L	P339412	
		Nickel	0.20	U	ug/L	P339412	
		Silver	0.010	U	ug/L	P339412	

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: DEAD RIVER @ 100M FROM LAKE HARRIS

Collection Date/Time: 02/01/2018 10:27

Field ID: G1CE0099

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1964093	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P339263	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P339699	
		Sulfate	7.3		mg SO4/L	P339704	
	SM 2120 B	Color (true)	29		PCU	P339258	
	SM 2320 B-97	Total Alkalinity	89		mg CaCO3/L	P339613	
	SM 2540 C-97	TDS	168	A	mg/L	P339747	
	SM 2540 D-97	TSS	4	IA	mg/L	P339686	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P340472	
1964097	EPA 350.1 Rev. 2.0	Ammonia-N	0.21		mg N/L	P339679	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P339277	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.027		mg N/L	P339336	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P339577	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P340071	
1964101	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P339313	
1964115	EPA 200.7 Rev. 4.4	Calcium	33.5		mg/L	P339412	
		Iron	31	I	ug/L	P339412	
		Magnesium	7.18		mg/L	P339412	
		Potassium	3.6		mg/L	P339412	
		Sodium	12.0		mg/L	P339412	
		Zinc	5.0	U	ug/L	P339412	
	EPA 200.8 Rev. 5.4	Arsenic	1.24		ug/L	P339412	
		Cadmium	0.020	U	ug/L	P339412	
		Chromium	0.40	U	ug/L	P339412	
		Copper	0.47	I	ug/L	P339412	
		Lead	0.11	I	ug/L	P339412	
		Nickel	0.20	U	ug/L	P339412	
		Silver	0.010	U	ug/L	P339412	

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: FIELD BLANK

Collection Date/Time: 02/01/2018 11:20

Field ID: BLANK_02012018

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1964103	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P339263	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P339699	
		Sulfate	0.20	U	mg SO4/L	P339704	
	SM 2120 B	Color (true)	2.5	U	PCU	P339258	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P339613	
	SM 2540 C-97	TDS	15	U	mg/L	P339744	
	SM 2540 D-97	TSS	2	U	mg/L	P339683	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P340472	
1964105	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P339679	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P339277	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P339336	

Field ID: BLANK_02012018

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1964105	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P339577	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P340071	
1964107	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P339314	
1964117	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P339412	
		Iron	30	U	ug/L	P339412	
		Magnesium	0.040	U	mg/L	P339412	
		Potassium	0.30	U	mg/L	P339412	
		Sodium	0.50	U	mg/L	P339412	
		Zinc	5.0	U	ug/L	P339412	
	EPA 200.8 Rev. 5.4	Arsenic	0.050	U	ug/L	P339412	
		Cadmium	0.020	U	ug/L	P339412	
		Chromium	0.40	U	ug/L	P339412	
		Copper	0.35	I	ug/L	P339412	
		Lead	0.050	U	ug/L	P339412	
		Nickel	0.20	U	ug/L	P339412	
		Silver	0.010	U	ug/L	P339412	

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 02/09/2018.

EPA 200.8 Rev. 5.4: The copper result was confirmed in the undigested sample on 02/07/2018.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P339263

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P339412

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/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: P339412

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339699

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339704

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339679

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P339275

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P339277

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P339336

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P339338

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P339526

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P339577

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339313

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339314

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

Reference Method: SM 2120 B
Batch ID: P339258

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P339259

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P339613

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

Reference Method: SM 2540 C-97
Batch ID: P339744

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P339746

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P339747

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P339683

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P339685

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P339686

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P340472

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P340071

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: P339412

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	108		P	85 - 115
Iron	111		P	85 - 115
Magnesium	108		P	85 - 115
Potassium	108		P	85 - 115
Sodium	110		P	85 - 115
Zinc	104		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339412

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	102		P	85 - 115
Cadmium	104		P	85 - 115
Chromium	99.7		P	85 - 115
Copper	98.7		P	85 - 115
Lead	100		P	85 - 115
Nickel	100		P	85 - 115
Silver	100		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339699

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	96.4		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339704

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	95.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339679

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P339275

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.7		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P339277

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	91.9		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P339336

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P339338

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	105		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P339526

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P339577

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	98.7		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339313

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.6		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339314

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

Reference Method: SM 2320 B-97
Batch ID: P339613

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.8		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P340472

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P340071

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P339412

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1964072	Calcium	105		P	80 - 120
1964072	Iron	110		P	80 - 120
1964072	Magnesium	107		P	80 - 120
1964072	Potassium	103		P	80 - 120
1964072	Sodium	103		P	80 - 120
1964072	Zinc	105		P	80 - 120
1964537	Calcium	104		P	80 - 120
1964537	Iron	111	110	P/P	80 - 120
1964537	Magnesium	106		P	80 - 120
1964537	Potassium	105	105	P/P	80 - 120
1964537	Sodium	106	106	P/P	80 - 120
1964537	Zinc	103	102	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339412

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1964072	Arsenic	102		P	80 - 120
1964072	Cadmium	102		P	80 - 120
1964072	Chromium	95.7		P	80 - 120
1964072	Copper	95.8		P	80 - 120
1964072	Lead	99.7		P	80 - 120
1964072	Nickel	96.7		P	80 - 120
1964072	Silver	98.0		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339412

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1964537	Arsenic	102	102	P/P	80 - 120
1964537	Cadmium	103	103	P/P	80 - 120
1964537	Chromium	98.4	97.8	P/P	80 - 120
1964537	Copper	95.6	95.9	P/P	80 - 120
1964537	Lead	101	101	P/P	80 - 120
1964537	Nickel	97.3	97.7	P/P	80 - 120
1964537	Silver	100	101	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339699

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1963974	Chloride	96.1		P	90 - 110
1964145	Chloride	96.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339704

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1963974	Sulfate	95.9		P	90 - 110
1964145	Sulfate	97.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339679

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1964075	Ammonia-N	102	109	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P339275

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1963978	Kjeldahl Nitrogen	101	97.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P339277

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1964104	Kjeldahl Nitrogen	100	99.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P339336

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1963977	NO2NO3-N	99.8	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P339338

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1964143	NO2NO3-N	101	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P339526

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1964075	Total-P	97.9	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P339577

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1964097	Total-P	95.0	96.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339313

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1963981	O-Phosphate-P	93.9	94.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1964144	O-Phosphate-P	94.1	94.1	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P340472

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1964092	Fluoride	98.7	102	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P340071

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1963978	Organic Carbon	107		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P339263

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1963975	Turbidity	0.855	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P339412

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1964537	Calcium	0.0363	Spike	P	0 - 20
1964537	Iron	1.18	Spike	P	0 - 20
1964537	Magnesium	1.20	Spike	P	0 - 20
1964537	Potassium	0.00479	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P339412

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1964537	Sodium	0.305	Spike	P	0 - 20
1964537	Zinc	0.933	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339412

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1964537	Arsenic	0.0418	Spike	P	0 - 20
1964537	Cadmium	0.292	Spike	P	0 - 20
1964537	Chromium	0.626	Spike	P	0 - 20
1964537	Copper	0.298	Spike	P	0 - 20
1964537	Lead	0.533	Spike	P	0 - 20
1964537	Nickel	0.406	Spike	P	0 - 20
1964537	Silver	0.734	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339699

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1963974	Chloride	0.402	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339704

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1963974	Sulfate	0.466	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339679

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1964075	Ammonia-N	4.47	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P339275

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1963978	Kjeldahl Nitrogen	2.38	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P339277

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1964104	Kjeldahl Nitrogen	0.564	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P339336

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1963977	NO2NO3-N	0.971	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P339338

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1964143	NO2NO3-N	0.494	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P339526

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1964075	Total-P	0.661	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P339577

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1964097	Total-P	1.18	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339313

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1963981	O-Phosphate-P	0.445	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1964144	O-Phosphate-P	0.0	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P339258

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1964090	Color (true)	3.35	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P339259

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1964091	Color (true)	0.174	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P339613

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1964091	Total Alkalinity	0.144	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P339744

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1963867	TDS	4.18	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P339746

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1963969	TDS	7.79	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P339747

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1964093	TDS	6.53	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P340472

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1964092	Fluoride	2.39	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P340071

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1963978	Organic Carbon	0.538	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: SM 2120 B
Run ID: A81828
Included Lab Sample IDs: 1964090, 1964091, 1964092, 1964093, 1964102, 1964103

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	108	111	P/P	85 - 115
Color (true)	109	108	P/P	85 - 115

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A81829

Included Lab Sample IDs: 1964090, 1964091, 1964092, 1964093, 1964102, 1964103

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A81844

Included Lab Sample IDs: 1964098, 1964099, 1964100, 1964101, 1964106, 1964107

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.7	98.1	P/P	90 - 110
O-Phosphate-P	98.3	97.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A81855

Included Lab Sample IDs: 1964094, 1964095, 1964096, 1964097, 1964104, 1964105

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A81870

Included Lab Sample IDs: 1964094, 1964095

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.7	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A81888

Included Lab Sample IDs: 1964096, 1964097, 1964104, 1964105

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	101	P/P	90 - 110
Kjeldahl Nitrogen	101	98.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A81909

Included Lab Sample IDs: 1964112, 1964113, 1964114, 1964115, 1964116, 1964117

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	95.1	93.0	P/P	90 - 110
Arsenic	95.3	96.8	P/P	90 - 110
Arsenic	96.8	95.1	P/P	90 - 110
Cadmium	96.0	97.6	P/P	90 - 110
Cadmium	96.7	94.8	P/P	90 - 110
Cadmium	97.6	96.7	P/P	90 - 110
Chromium	93.4	93.7	P/P	90 - 110
Chromium	93.7	94.5	P/P	90 - 110
Chromium	94.5	91.8	P/P	90 - 110
Copper	94.8	92.8	P/P	90 - 110
Copper	95.1	96.4	P/P	90 - 110
Copper	96.4	94.8	P/P	90 - 110
Lead	95.3	97.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A81909

Included Lab Sample IDs: 1964112, 1964113, 1964114, 1964115, 1964116, 1964117

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	97.1	93.2	P/P	90 - 110
Lead	97.4	97.1	P/P	90 - 110
Nickel	94.9	96.0	P/P	90 - 110
Nickel	95.2	92.9	P/P	90 - 110
Nickel	96.0	95.2	P/P	90 - 110
Silver	93.2	94.8	P/P	90 - 110
Silver	94.8	94.9	P/P	90 - 110
Silver	94.9	91.7	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A81911

Included Lab Sample IDs: 1964112, 1964113, 1964114, 1964115, 1964116, 1964117

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	100	P/P	90 - 110
Calcium	100	101	P/P	90 - 110
Calcium	101	101	P/P	90 - 110
Iron	101	102	P/P	90 - 110
Iron	102	103	P/P	90 - 110
Iron	103	102	P/P	90 - 110
Magnesium	101	102	P/P	90 - 110
Magnesium	102	102	P/P	90 - 110
Magnesium	102	102	P/P	90 - 110
Potassium	98.6	99.0	P/P	90 - 110
Potassium	98.7	98.6	P/P	90 - 110
Potassium	99.0	99.1	P/P	90 - 110
Sodium	98.9	99.9	P/P	90 - 110
Sodium	99.9	100	P/P	90 - 110
Sodium	100	99.0	P/P	90 - 110
Zinc	101	102	P/P	90 - 110
Zinc	101	102	P/P	90 - 110
Zinc	102	101	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A81946

Included Lab Sample IDs: 1964090, 1964091, 1964092, 1964093, 1964102, 1964103

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.5	98.0	P/P	90 - 110
Total Alkalinity	98.0	96.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A81956

Included Lab Sample IDs: 1964094

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A81960

Included Lab Sample IDs: 1964095, 1964096, 1964097, 1964104, 1964105

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A81964

Included Lab Sample IDs: 1964094, 1964095, 1964096, 1964097, 1964104, 1964105

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.8	103	P/P	90 - 110
Ammonia-N	99.3	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A81969

Included Lab Sample IDs: 1964090, 1964091, 1964092, 1964093, 1964102, 1964103

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

Reference Method: SM 5310 B-00

Run ID: A82106

Included Lab Sample IDs: 1964094, 1964095, 1964096, 1964097, 1964104, 1964105

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.2	96.6	P/P	90 - 110
Organic Carbon	95.8	95.2	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A82245

Included Lab Sample IDs: 1964090, 1964091, 1964092, 1964093, 1964102, 1964103

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.1	98.6	P/P	90 - 110
Fluoride	99.1	98.1	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision	
			LCS			SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					0.855	
EPA 200.7 Rev. 4.4	Calcium	108	105	104			0.0363
	Iron	111	110	111	110		1.18
	Magnesium	108	107	106			1.20
	Potassium	108	103	105	105		0.0047
	Sodium	110	103	106	106		0.305

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision	MS
			LCS	SMP	MS		
EPA 200.7 Rev. 4.4	Zinc	104	105	103	102		0.933
EPA 200.8 Rev. 5.4	Arsenic	102	102	102	102		0.0418
	Cadmium	104	102	103	103		0.292
	Chromium	99.7	95.7	98.4	97.8		0.626
	Copper	98.7	95.8	95.6	95.9		0.298
	Lead	100	99.7	101	101		0.533
	Nickel	100	96.7	97.3	97.7		0.406
	Silver	100	98.0	100	101		0.734
EPA 300.0 Rev. 2.1	Chloride	96.4	96.1	96.8		0.402	
	Sulfate	95.0	95.9	97.5		0.466	
EPA 350.1 Rev. 2.0	Ammonia-N	99.6	102	109			4.47
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.7	101	97.4			2.38
	Kjeldahl Nitrogen	91.9	100	99.1			0.564
EPA 353.2 Rev. 2.0	NO2NO3-N	104	99.8	101			0.971
	NO2NO3-N	105	101	102			0.494
EPA 365.1 Rev. 2.0	Total-P	97.8	97.9	98.6			0.661
	Total-P	98.7	95.0	96.1			1.18
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.6	93.9	94.4			0.445
	O-Phosphate-P	95.4	94.1	94.1			0.0
SM 2120 B	Color (true)					3.35	
	Color (true)					0.174	
SM 2320 B-97	Total Alkalinity	96.8				0.144	
SM 2540 C-97	TDS					4.18	
	TDS					7.79	
	TDS					6.53	
SM 4500 F-C-97	Fluoride	95.8	98.7	102			2.39
SM 5310 B-00	Organic Carbon	95.8	107				0.538

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1964090, 1964091, 1964092, 1964093, 1964102, 1964103
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1964112, 1964113, 1964114, 1964115, 1964116, 1964117
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1964112, 1964113, 1964114, 1964115, 1964116, 1964117
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1964090, 1964091, 1964092, 1964093, 1964102, 1964103
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1964090, 1964091, 1964092, 1964093, 1964102, 1964103
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1964094, 1964095, 1964096, 1964097, 1964104, 1964105
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1964094, 1964095, 1964096, 1964097, 1964104, 1964105
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1964094, 1964095, 1964096, 1964097, 1964104, 1964105
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1964094, 1964095, 1964096, 1964097, 1964104, 1964105
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1964098, 1964099, 1964100, 1964101, 1964106, 1964107
SM 2120 B / E31780	True Color measured at 450 nm	1964090, 1964091, 1964092, 1964093, 1964102, 1964103
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1964090, 1964091, 1964092, 1964093, 1964102, 1964103

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1964090, 1964091, 1964092, 1964093, 1964102, 1964103
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1964090, 1964091, 1964092, 1964093, 1964102, 1964103
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1964090, 1964091, 1964092, 1964093, 1964102, 1964103
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1964094, 1964095, 1964096, 1964097, 1964104, 1964105

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	02/02/2018			02/02/2018 14:20	Tanya Welborn	1964090, 1964091, 1964092, 1964093, 1964102, 1964103
EPA 200.7 Rev. 4.4	02/02/2018	02/06/2018	Elliott D. Healy	02/07/2018	Betina Topolski	1964112, 1964113, 1964114, 1964115, 1964116, 1964117
EPA 200.8 Rev. 5.4	02/02/2018	02/06/2018	Elliott D. Healy	02/07/2018	Robert K Palmer	1964112, 1964113, 1964114, 1964117
	02/02/2018	02/06/2018	Elliott D. Healy	02/08/2018	Robert K Palmer	1964115, 1964116
EPA 300.0 Rev. 2.1	02/02/2018			02/09/2018	Julia Storbeck	1964090, 1964091, 1964092, 1964093, 1964102, 1964103
EPA 350.1 Rev. 2.0	02/02/2018			02/09/2018	Julia Storbeck	1964094, 1964095, 1964096, 1964097, 1964104, 1964105
EPA 351.2 Rev. 2.0	02/02/2018	02/05/2018	Adrian Shelby	02/06/2018	Joseph Suarez	1964094, 1964095
	02/02/2018	02/05/2018	Adrian Shelby	02/07/2018	Joseph Suarez	1964096, 1964097, 1964104, 1964105
EPA 353.2 Rev. 2.0	02/02/2018			02/05/2018	Lauren Bottorf	1964094, 1964095, 1964096, 1964097, 1964104, 1964105
EPA 365.1 Rev. 2.0	02/02/2018	02/08/2018	Sima Feizi	02/09/2018	Lipi Saha	1964094, 1964095, 1964096, 1964097, 1964104, 1964105
EPA 365.1 Rev. 2.0 dissolved	02/02/2018			02/02/2018 15:53	Megan Treadwell	1964098
	02/02/2018			02/02/2018 15:54	Megan Treadwell	1964099
	02/02/2018			02/02/2018 15:59	Megan Treadwell	1964100
	02/02/2018			02/02/2018 16:00	Megan Treadwell	1964101
	02/02/2018			02/02/2018 16:01	Megan Treadwell	1964106
	02/02/2018			02/02/2018 16:02	Megan Treadwell	1964107
SM 2120 B	02/02/2018			02/02/2018 16:44	Tanya Welborn	1964090
	02/02/2018			02/02/2018 16:45	Tanya Welborn	1964092
	02/02/2018			02/02/2018 16:46	Tanya Welborn	1964093, 1964102
	02/02/2018			02/02/2018 16:47	Tanya Welborn	1964103
	02/02/2018			02/02/2018 16:55	Tanya Welborn	1964091
SM 2320 B-97	02/02/2018			02/09/2018	Lauren Bottorf	1964090, 1964091, 1964092, 1964093, 1964102, 1964103
SM 2540 C-97	02/02/2018			02/07/2018	Yijie Li	1964090, 1964091, 1964092, 1964093, 1964102, 1964103
SM 2540 D-97	02/02/2018			02/07/2018	Yijie Li	1964090, 1964091, 1964092, 1964093, 1964102, 1964103
SM 4500 F-C-97	02/02/2018			02/22/2018	Dale L. Simmons	1964090, 1964091, 1964092, 1964093, 1964102, 1964103
SM 5310 B-00	02/02/2018			02/15/2018	Megan Treadwell	1964094, 1964095, 1964096, 1964097, 1964104, 1964105