

Chemical Analysis Report

CEN-DIST-2017-04-28-01

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

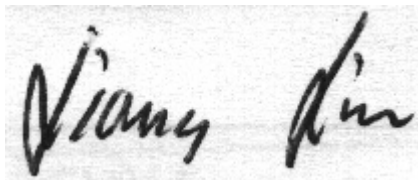
Event Description: **Lk Rouse x4 / Lk Drawdy x2**
Request ID: **RQ-2017-04-10-48**
Customer: **CEN-DIST**
Project ID: **SMP**

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

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 25-MAY-2017 12:44

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

NON-CONFORMANCE REPORT INCLUDED

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: LAKE ROUSE @ NW CORNER OF LAKE

Collection Date/Time: 04/27/2017 10:21

Field ID: G2CE0100

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1894607	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P324231	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P324788	
		Sulfate	8.2		mg SO4/L	P324791	
	SM 2120 B	Color (true)	46	A	PCU	P324227	
	SM 2320 B-97	Total Alkalinity	30		mg CaCO3/L	P325144	
	SM 2540 C-97	TDS	94		mg/L	P324876	
	SM 2540 D-97	TSS	4	I	mg/L	P324925	
	SM 4500 F-C-97	Fluoride	0.045	I	mg F/L	P325148	
1894613	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P324265	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.53		mg N/L	P324342	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P324604	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P324488	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P324767	
1894619	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324239	
1894636	EPA 200.7 Rev. 4.4	Calcium	13.1		mg/L	P324647	
		Iron	30	U	ug/L	P324647	
		Magnesium	1.40		mg/L	P324647	
		Potassium	2.0		mg/L	P324647	
		Sodium	13.1		mg/L	P324647	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P324647	
		Arsenic	1.14		ug/L	P324647	
		Cadmium	0.020	U	ug/L	P324647	
		Chromium	0.40	U	ug/L	P324647	
		Copper	0.62	I	ug/L	P324647	
		Lead	0.090	I	ug/L	P324647	
		Nickel	0.20	U	ug/L	P324647	
		Silver	0.010	U	ug/L	P324647	

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: LAKE ROUSE @ NE CORNER OF LAKE

Collection Date/Time: 04/27/2017 10:30

Field ID: G2CE0101

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1894608	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P324231	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P324788	
		Sulfate	8.2		mg SO4/L	P324791	
	SM 2120 B	Color (true)	46		PCU	P324227	
	SM 2320 B-97	Total Alkalinity	30		mg CaCO3/L	P325144	
	SM 2540 C-97	TDS	97		mg/L	P324876	
	SM 2540 D-97	TSS	2	I	mg/L	P324925	
	SM 4500 F-C-97	Fluoride	0.045	I	mg F/L	P325148	
1894614	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P324265	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.50		mg N/L	P324342	

Field ID: G2CE0101

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1894614	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P324604	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P324488	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P324767	
1894620	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324239	
1894637	EPA 200.7 Rev. 4.4	Calcium	13.4		mg/L	P324647	
		Iron	33	I	ug/L	P324647	
		Magnesium	1.41		mg/L	P324647	
		Potassium	2.1		mg/L	P324647	
		Sodium	13.4		mg/L	P324647	
		Zinc	5.0	U	ug/L	P324647	
	EPA 200.8 Rev. 5.4	Arsenic	1.17		ug/L	P324647	
		Cadmium	0.020	U	ug/L	P324647	
		Chromium	0.40	U	ug/L	P324647	
		Copper	0.59	I	ug/L	P324647	
		Lead	0.21		ug/L	P324647	
		Nickel	0.20	U	ug/L	P324647	
		Silver	0.010	U	ug/L	P324647	

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: LAKE ROUSE @ SE CORNER OF LAKE

Collection Date/Time: 04/27/2017 10:40

Field ID: G2CE0102

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1894609	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P324231	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P324788	
		Sulfate	8.2		mg SO4/L	P324791	
		Color (true)	46		PCU	P324227	
	SM 2320 B-97	Total Alkalinity	30		mg CaCO3/L	P325144	
	SM 2540 C-97	TDS	92		mg/L	P324876	
	SM 2540 D-97	TSS	3	I	mg/L	P324925	
	SM 4500 F-C-97	Fluoride	0.045	I	mg F/L	P325148	
1894615	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P324265	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.59		mg N/L	P324426	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P324604	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P324488	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P324767	
1894621	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324239	
1894638	EPA 200.7 Rev. 4.4	Calcium	13.4		mg/L	P324647	
		Iron	40	I	ug/L	P324647	
		Magnesium	1.41		mg/L	P324647	
		Potassium	2.1		mg/L	P324647	
		Sodium	13.5		mg/L	P324647	
		Zinc	5.0	U	ug/L	P324647	
	EPA 200.8 Rev. 5.4	Arsenic	1.19		ug/L	P324647	

Field ID: G2CE0102

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1894638	EPA 200.8 Rev. 5.4	Cadmium	0.020	U	ug/L	P324647	
		Chromium	0.40	U	ug/L	P324647	
		Copper	0.62	I	ug/L	P324647	
		Lead	0.12	I	ug/L	P324647	
		Nickel	0.20	U	ug/L	P324647	
		Silver	0.010	U	ug/L	P324647	

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: LAKE ROUSE @ SW CORNER OF LAKE

Collection Date/Time: 04/27/2017 10:48

Field ID: G2CE0103

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1894610	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P324231	
	EPA 300.0 Rev. 2.1	Chloride	20	A	mg Cl/L	P324788	
		Sulfate	8.2	A	mg SO4/L	P324791	
	SM 2120 B	Color (true)	47		PCU	P324227	
	SM 2320 B-97	Total Alkalinity	30		mg CaCO3/L	P325144	
	SM 2540 C-97	TDS	91		mg/L	P324876	
	SM 2540 D-97	TSS	3	I	mg/L	P324925	
	SM 4500 F-C-97	Fluoride	0.045	I	mg F/L	P325148	
1894616	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	IY	mg N/L	P324265	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.61	Y	mg N/L	P324426	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	UY	mg N/L	P324604	
	EPA 365.1 Rev. 2.0	Total-P	0.012	Y	mg P/L	P324488	
	SM 5310 B-00	Organic Carbon	10	Y	mg C/L	P324767	
1894622	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324239	
1894639	EPA 200.7 Rev. 4.4	Calcium	13.3		mg/L	P324647	
		Iron	41	I	ug/L	P324647	
		Magnesium	1.40		mg/L	P324647	
		Potassium	2.2		mg/L	P324647	
		Sodium	14.0		mg/L	P324647	
		Zinc	5.0	U	ug/L	P324647	
	EPA 200.8 Rev. 5.4	Arsenic	1.14		ug/L	P324647	
		Cadmium	0.020	U	ug/L	P324647	
		Chromium	0.40	U	ug/L	P324647	
		Copper	0.84		ug/L	P324647	
		Lead	0.10	I	ug/L	P324647	
		Nickel	2.87		ug/L	P324647	
		Silver	0.010	U	ug/L	P324647	

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 sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 351.2 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 353.2 Rev. 2.0: NO2NO3-N: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 365.1 Rev. 2.0: Total-P: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

SM 5310 B-00: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

Sample Location: LAKE DRAWDY @ 150M NNE OF CENTER

Collection Date/Time: 04/27/2017 11:35

Field ID: G2CE0079

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1894611	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P324231	
	EPA 300.0 Rev. 2.1	Chloride	29		mg Cl/L	P324788	
		Sulfate	18		mg SO4/L	P324791	
	SM 2120 B	Color (true)	41		PCU	P324227	
	SM 2320 B-97	Total Alkalinity	7.8		mg CaCO3/L	P325144	
	SM 2540 C-97	TDS	106		mg/L	P324877	
	SM 2540 D-97	TSS	3	I	mg/L	P324926	
	SM 4500 F-C-97	Fluoride	0.043	I	mg F/L	P325148	
1894617	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P324265	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.60		mg N/L	P324426	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P324605	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P324488	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P324767	
1894623	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324240	
1894640	EPA 200.7 Rev. 4.4	Calcium	8.86		mg/L	P324647	
		Iron	50	I	ug/L	P324647	
		Magnesium	2.93		mg/L	P324647	
		Potassium	3.5		mg/L	P324647	
		Sodium	16.2		mg/L	P324647	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P324647	
		Arsenic	0.96		ug/L	P324647	
		Cadmium	0.020	U	ug/L	P324647	
		Chromium	0.40	U	ug/L	P324647	
		Copper	0.76	I	ug/L	P324647	
		Lead	0.050	U	ug/L	P324647	
		Nickel	0.20	U	ug/L	P324647	
		Silver	0.010	U	ug/L	P324647	

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: LAKE DRAWDY @ 150M S OF CENTER

Collection Date/Time: 04/27/2017 11:47

Field ID: G2CE0078

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1894612	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P324231	
	EPA 300.0 Rev. 2.1	Chloride	29		mg Cl/L	P324788	
		Sulfate	18		mg SO4/L	P324791	
	SM 2120 B	Color (true)	42		PCU	P324227	
	SM 2320 B-97	Total Alkalinity	7.8		mg CaCO3/L	P325144	
	SM 2540 C-97	TDS	102	A	mg/L	P324877	
	SM 2540 D-97	TSS	3	IA	mg/L	P324926	
	SM 4500 F-C-97	Fluoride	0.044	I	mg F/L	P325148	
1894618	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P324265	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.60		mg N/L	P324426	

Field ID: G2CE0078

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1894618	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P324605	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P324488	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P324767	
1894624	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324240	
1894641	EPA 200.7 Rev. 4.4	Calcium	8.93		mg/L	P324647	
		Iron	45	I	ug/L	P324647	
		Magnesium	3.03		mg/L	P324647	
		Potassium	3.5		mg/L	P324647	
		Sodium	16.3		mg/L	P324647	
		Zinc	5.0	U	ug/L	P324647	
	EPA 200.8 Rev. 5.4	Arsenic	0.97		ug/L	P324647	
		Cadmium	0.020	U	ug/L	P324647	
		Chromium	0.40	U	ug/L	P324647	
		Copper	0.79	I	ug/L	P324647	
		Lead	0.050	U	ug/L	P324647	
		Nickel	0.20	U	ug/L	P324647	
		Silver	0.010	U	ug/L	P324647	

Ref. Method and Comment:

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

Non-Conformance Report

NCR ID: 6379

Event(s)

CEN-DIST-2017-04-28-01

CEN-DIST-2017-04-28-01

Job(s)

TLH-2017-04-28-81

Sample(s)

1894616

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Preservation Not Intact

Observation: Sample not preserved to pH<2.

Resolution: Sample preserved in laboratory on 04/28/2017 with sulfuric acid at 3:35 pm.

Authorized by/Date: Bettina S. Steinbock 5/24/2017

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
 Please address questions to:

Chemistry Colin Wright (850) 245-8085
 Biology Cheryl Swanson (850) 245-8177

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P324231

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P324647

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: P324647

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324788

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324791

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324265

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324342

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324426

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324604

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324605

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324488

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324239

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324240

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

Reference Method: SM 2120 B
Batch ID: P324227

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P325144

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

Reference Method: SM 2540 C-97
Batch ID: P324876

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P324877

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P324925

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P324926

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P325148

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P324767

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: P324647

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	104		P	85 - 115
Magnesium	109		P	85 - 115
Potassium	98.6		P	85 - 115
Sodium	90.9		P	85 - 115
Zinc	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P324647

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	101		P	85 - 115
Cadmium	97.4		P	85 - 115
Chromium	98.8		P	85 - 115
Copper	98.9		P	85 - 115
Lead	97.6		P	85 - 115
Nickel	101		P	85 - 115
Silver	95.0		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324788

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324791

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324265

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324342

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324426

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	108		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324604

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324605

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324488

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.4		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324239

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324240

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P325144

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

Reference Method: SM 4500 F-C-97
Batch ID: P325148

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

Reference Method: SM 5310 B-00
Batch ID: P324767

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P324647

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1894636	Calcium	104		P	80 - 120
1894636	Iron	107		P	80 - 120
1894636	Magnesium	110		P	80 - 120
1894636	Potassium	98.6		P	80 - 120
1894636	Sodium	102		P	80 - 120
1894636	Zinc	105		P	80 - 120
1895275	Calcium	103		P	80 - 120
1895275	Iron	106	104	P/P	80 - 120
1895275	Magnesium	110	108	P/P	80 - 120
1895275	Potassium	97.9	97.4	P/P	80 - 120
1895275	Sodium	102	101	P/P	80 - 120
1895275	Zinc	102	101	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P324647

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1894636	Arsenic	103		P	80 - 120
1894636	Cadmium	100		P	80 - 120
1894636	Chromium	99.6		P	80 - 120
1894636	Copper	99.1		P	80 - 120
1894636	Lead	100		P	80 - 120
1894636	Nickel	101		P	80 - 120
1894636	Silver	96.9		P	80 - 120
1895275	Arsenic	101	102	P/P	80 - 120
1895275	Cadmium	100	101	P/P	80 - 120
1895275	Chromium	102	102	P/P	80 - 120
1895275	Copper	99.5	101	P/P	80 - 120
1895275	Lead	101	101	P/P	80 - 120
1895275	Nickel	100	101	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P324647

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1895275	Silver	97.0	97.9	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324788

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1894610	Chloride	97.3		P	90 - 110
1894611	Chloride	96.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324791

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1894610	Sulfate	101		P	90 - 110
1894611	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324265

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1894250	Ammonia-N	104	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324342

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1894396	Kjeldahl Nitrogen	99.1	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324426

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1894859	Kjeldahl Nitrogen	90.1	90.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324604

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1894397	NO2NO3-N	104	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324605

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1894617	NO2NO3-N	104	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324488

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1894618	Total-P	103	97.2	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324239

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1894399	O-Phosphate-P	95.2	96.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324240

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1894400	O-Phosphate-P	95.1	96.4	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P325148

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1894180	Fluoride	99.4	98.8	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P324767

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1894249	Organic Carbon	103		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P324231

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894392	Turbidity	0.727	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P324647

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1895275	Calcium	0.279	Spike	P	0 - 20
1895275	Iron	1.57	Spike	P	0 - 20
1895275	Magnesium	1.01	Spike	P	0 - 20
1895275	Potassium	0.497	Spike	P	0 - 20
1895275	Sodium	0.544	Spike	P	0 - 20
1895275	Zinc	1.28	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P324647

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1895275	Arsenic	0.450	Spike	P	0 - 20
1895275	Cadmium	1.26	Spike	P	0 - 20
1895275	Chromium	0.160	Spike	P	0 - 20
1895275	Copper	1.06	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P324647

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1895275	Lead	0.658	Spike	P	0 - 20
1895275	Nickel	1.25	Spike	P	0 - 20
1895275	Silver	0.878	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324788

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894610	Chloride	0.315	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324791

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894610	Sulfate	0.157	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324265

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894250	Ammonia-N	1.06	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324342

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894396	Kjeldahl Nitrogen	0.495	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324426

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894859	Kjeldahl Nitrogen	0.519	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894397	NO2NO3-N	1.91	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324605

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324605

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894617	NO2NO3-N	1.43	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324488

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894618	Total-P	5.57	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324239

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894399	O-Phosphate-P	0.801	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324240

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894400	O-Phosphate-P	0.977	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P324227

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894607	Color (true)	2.31	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P325144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894180	Total Alkalinity	0.132	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P324876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894248	TDS	3.59	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P324877

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894612	TDS	1.96	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P325148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894180	Fluoride	0.483	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P324767

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894249	Organic Carbon	0.482	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: A76065
Included Lab Sample IDs: 1894607, 1894608, 1894609, 1894610, 1894611, 1894612

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	99.3	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A76066
Included Lab Sample IDs: 1894607, 1894608, 1894609, 1894610, 1894611, 1894612

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A76069
Included Lab Sample IDs: 1894619, 1894620, 1894621, 1894622, 1894623, 1894624

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.2	98.1	P/P	90 - 110
O-Phosphate-P	98.7	98.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A76071
Included Lab Sample IDs: 1894613, 1894614, 1894615, 1894616, 1894617, 1894618

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 300.0 Rev. 2.1
Run ID: A76148
Included Lab Sample IDs: 1894607, 1894608, 1894609, 1894610, 1894611, 1894612

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A76148

Included Lab Sample IDs: 1894607, 1894608, 1894609, 1894610, 1894611, 1894612

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	105	107	P/P	90 - 110
Chloride	106	105	P/P	90 - 110
Chloride	107	104	P/P	90 - 110
Sulfate	100	103	P/P	90 - 110
Sulfate	102	103	P/P	90 - 110
Sulfate	103	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A76152

Included Lab Sample IDs: 1894613, 1894614

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	105	P/P	90 - 110
Kjeldahl Nitrogen	105	108	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A76178

Included Lab Sample IDs: 1894613, 1894614, 1894615, 1894616, 1894617, 1894618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	104	P/P	90 - 110
NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A76191

Included Lab Sample IDs: 1894613, 1894614, 1894615, 1894616, 1894617, 1894618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	99.0	P/P	90 - 110
Total-P	99.0	96.5	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A76230

Included Lab Sample IDs: 1894613, 1894614, 1894615, 1894616, 1894617, 1894618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.8	99.4	P/P	90 - 110
Organic Carbon	99.1	98.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A76253

Included Lab Sample IDs: 1894636, 1894637, 1894638, 1894639, 1894640, 1894641

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	94.8	94.1	P/P	90 - 110
Arsenic	96.2	94.8	P/P	90 - 110
Cadmium	93.5	92.9	P/P	90 - 110
Cadmium	94.1	93.5	P/P	90 - 110
Chromium	96.4	97.4	P/P	90 - 110
Chromium	97.4	97.3	P/P	90 - 110
Copper	96.7	95.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A76253

Included Lab Sample IDs: 1894636, 1894637, 1894638, 1894639, 1894640, 1894641

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	98.1	96.7	P/P	90 - 110
Lead	95.2	94.8	P/P	90 - 110
Lead	95.9	95.2	P/P	90 - 110
Nickel	96.5	95.7	P/P	90 - 110
Nickel	97.7	96.5	P/P	90 - 110
Silver	95.2	95.2	P/P	90 - 110
Silver	96.4	95.2	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A76363

Included Lab Sample IDs: 1894607, 1894608, 1894609, 1894610, 1894611, 1894612

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

Reference Method: SM 4500 F-C-97

Run ID: A76363

Included Lab Sample IDs: 1894607, 1894608, 1894609, 1894610, 1894611, 1894612

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A76401

Included Lab Sample IDs: 1894615, 1894616, 1894617, 1894618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.0	96.3	P/P	90 - 110
Kjeldahl Nitrogen	96.3	96.6	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A76428

Included Lab Sample IDs: 1894636, 1894637, 1894638, 1894639, 1894640, 1894641

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	102	P/P	90 - 110
Iron	101	101	P/P	90 - 110
Magnesium	102	101	P/P	90 - 110
Potassium	102	101	P/P	90 - 110
Sodium	98.6	98.9	P/P	90 - 110
Zinc	103	102	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					0.727	
EPA 200.7 Rev. 4.4	Calcium	102	104	103			0.279
	Iron	104	107	106	104		1.57
	Magnesium	109	110	110	108		1.01
	Potassium	98.6	98.6	97.9	97.4		0.497
	Sodium	90.9	102	102	101		0.544
	Zinc	100	105	102	101		1.28
EPA 200.8 Rev. 5.4	Arsenic	101	103	101	102		0.450
	Cadmium	97.4	100	100	101		1.26
	Chromium	98.8	99.6	102	102		0.160
	Copper	98.9	99.1	99.5	101		1.06
	Lead	97.6	100	101	101		0.658
	Nickel	101	101	100	101		1.25
	Silver	95.0	96.9	97.0	97.9		0.878
EPA 300.0 Rev. 2.1	Chloride	102	97.3	96.6		0.315	
	Sulfate	101	101	101		0.157	
EPA 350.1 Rev. 2.0	Ammonia-N	103	104	102			1.06
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	99.1	98.5			0.495
	Kjeldahl Nitrogen	108	90.1	90.9			0.519
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	106	104	106			1.91
	NO ₂ NO ₃ -N	106	104	106			1.43
EPA 365.1 Rev. 2.0	Total-P	97.4	103	97.2			5.57
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.2	95.2	96.2			0.801
	O-Phosphate-P	99.5	95.1	96.4			0.977
SM 2120 B	Color (true)					2.31	
SM 2320 B-97	Total Alkalinity	104				0.132	
SM 2540 C-97	TDS					3.59	
	TDS					1.96	
SM 4500 F-C-97	Fluoride	98.7	99.4	98.8			0.483
SM 5310 B-00	Organic Carbon	99.2	103				0.482

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1894607, 1894608, 1894609, 1894610, 1894611, 1894612
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1894636, 1894637, 1894638, 1894639, 1894640, 1894641
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1894636, 1894637, 1894638, 1894639, 1894640, 1894641
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1894607, 1894608, 1894609, 1894610, 1894611, 1894612
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1894607, 1894608, 1894609, 1894610, 1894611, 1894612
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1894613, 1894614, 1894615, 1894616, 1894617, 1894618
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1894613, 1894614, 1894615, 1894616, 1894617, 1894618
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1894613, 1894614, 1894615, 1894616, 1894617, 1894618
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1894613, 1894614, 1894615, 1894616, 1894617, 1894618
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1894619, 1894620, 1894621, 1894622, 1894623, 1894624

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2120 B / E31780	True Color measured at 450 nm	1894607, 1894608, 1894609, 1894610, 1894611, 1894612
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1894607, 1894608, 1894609, 1894610, 1894611, 1894612
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1894607, 1894608, 1894609, 1894610, 1894611, 1894612
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1894607, 1894608, 1894609, 1894610, 1894611, 1894612
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1894607, 1894608, 1894609, 1894610, 1894611, 1894612
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1894613, 1894614, 1894615, 1894616, 1894617, 1894618

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	04/28/2017			04/28/2017 16:01	Sima Feizi	1894607, 1894608, 1894609, 1894610, 1894611, 1894612
EPA 200.7 Rev. 4.4	04/28/2017	05/04/2017	Elliott D. Healy	05/12/2017	Martin Acosta	1894636, 1894637, 1894638, 1894639, 1894640, 1894641
EPA 200.8 Rev. 5.4	04/28/2017	05/04/2017	Elliott D. Healy	05/08/2017	Betina Topolski	1894636, 1894637, 1894638, 1894639, 1894640, 1894641
EPA 300.0 Rev. 2.1	04/28/2017			05/05/2017	Ping Hua	1894607, 1894608, 1894609, 1894610, 1894611, 1894612
EPA 350.1 Rev. 2.0	04/28/2017			04/28/2017	Julie Michelle Frank	1894613, 1894614, 1894615, 1894616, 1894617, 1894618
EPA 351.2 Rev. 2.0	04/28/2017	05/02/2017	Adrian Shelby	05/03/2017	Joseph Suarez	1894613, 1894614
	04/28/2017	05/03/2017	Adrian Shelby	05/08/2017	Joseph Suarez	1894615, 1894616, 1894617, 1894618
EPA 353.2 Rev. 2.0	04/28/2017			05/04/2017	Beverly Y. Sanders	1894613, 1894614, 1894615, 1894616, 1894617, 1894618
EPA 365.1 Rev. 2.0	04/28/2017	05/03/2017	Vijayalakshmi Reddy	05/04/2017	Lipi Saha	1894613, 1894614, 1894615, 1894616, 1894617, 1894618
EPA 365.1 Rev. 2.0 dissolved	04/28/2017			04/28/2017 16:36	Anthony C. Onicha	1894619
	04/28/2017			04/28/2017 16:37	Anthony C. Onicha	1894620
	04/28/2017			04/28/2017 16:38	Anthony C. Onicha	1894621
	04/28/2017			04/28/2017 16:39	Anthony C. Onicha	1894622
	04/28/2017			04/28/2017 16:46	Anthony C. Onicha	1894623, 1894624
SM 2120 B	04/28/2017			04/28/2017 15:46	Julia Storbeck	1894607, 1894608
	04/28/2017			04/28/2017 15:47	Julia Storbeck	1894609
	04/28/2017			04/28/2017 15:48	Julia Storbeck	1894610
	04/28/2017			04/28/2017 15:49	Julia Storbeck	1894611
	04/28/2017			04/28/2017 15:50	Julia Storbeck	1894612
SM 2320 B-97	04/28/2017			05/10/2017	Dale L. Simmons	1894607, 1894608, 1894609, 1894610, 1894611, 1894612
SM 2540 C-97	04/28/2017			05/03/2017	Yijie Li	1894607, 1894608, 1894609, 1894610, 1894611, 1894612
SM 2540 D-97	04/28/2017			05/03/2017	Yijie Li	1894607, 1894608, 1894609, 1894610, 1894611, 1894612
SM 4500 F-C-97	04/28/2017			05/10/2017	Dale L. Simmons	1894607, 1894608, 1894609, 1894610, 1894611, 1894612
SM 5310 B-00	04/28/2017			05/06/2017	Julie Michelle Frank	1894613, 1894614, 1894615, 1894616, 1894617, 1894618