

Chemical Analysis Report

CEN-DIST-2017-10-26-02

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

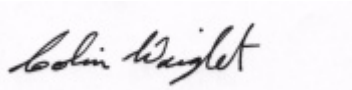
Event Description: **Lk Lou / Lil Lk Weir + D&B**
Request ID: **RQ-2017-10-23-31**
Customer: **CEN-DIST**
Project ID: **SMP**

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

Date Certified: 17-NOV-2017 12:01



Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical group are included in this report: Nutrients.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited 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: Little Lk Weir Center

Collection Date/Time: 10/25/2017 10:53

Field ID: G1CE0014

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1940238	EPA 180.1 Rev. 2.0	Turbidity	4.1	A	NTU	P334128	
	EPA 300.0 Rev. 2.1	Chloride	49		mg Cl/L	P334435	
		Sulfate	9.9		mg SO4/L	P334438	
	SM 2120 B	Color (true)	19		PCU	P334152	
	SM 2320 B-97	Total Alkalinity	22		mg CaCO3/L	P334234	
	SM 2540 C-97	TDS	131		mg/L	P334420	
	SM 2540 D-97	TSS	6	I	mg/L	P334964	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P334461	
1940240	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P334711	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P334454	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P334455	
	EPA 365.1 Rev. 2.0	Total-P	0.019		mg P/L	P334298	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P334706	
1940242	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P334136	

Ref. Method and Comment:

SM 2120 B: Batch relative percent difference is unavailable because of low 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.

SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Little Lk Weir Center_DUP

Collection Date/Time: 10/25/2017 10:56

Field ID: G1CE0014_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1940244	EPA 180.1 Rev. 2.0	Turbidity	4.1		NTU	P334128	
	EPA 300.0 Rev. 2.1	Chloride	49		mg Cl/L	P334435	
		Sulfate	9.9		mg SO4/L	P334438	
	SM 2120 B	Color (true)	19		PCU	P334152	
	SM 2320 B-97	Total Alkalinity	22		mg CaCO3/L	P334234	
	SM 2540 C-97	TDS	127		mg/L	P334420	
	SM 2540 D-97	TSS	5	I	mg/L	P334964	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P334461	
1940246	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P335015	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P334454	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P334455	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P334298	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P334706	
1940248	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P334136	

Ref. Method and Comment:

SM 2120 B: Batch relative percent difference is unavailable because of low 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.

SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Field Blank

Collection Date/Time: 10/25/2017 11:10

Field ID: Field Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Field ID: Field Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1940245	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P334128	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P334435	
		Sulfate	0.20	U	mg SO4/L	P334438	
	SM 2120 B	Color (true)	2.5	U	PCU	P334152	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P334234	
	SM 2540 C-97	TDS	15	U	mg/L	P334420	
	SM 2540 D-97	TSS	2	U	mg/L	P334964	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P334461	
1940247	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P334711	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P334454	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P334455	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P334306	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P334706	
1940249	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P334136	

Ref. Method and Comment:

SM 2120 B: Batch relative percent difference is unavailable because of low 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.

SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Lake Lou - Center of Lake

Collection Date/Time: 10/25/2017 12:05

Field ID: G1CE0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1940239	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P334128	
	EPA 300.0 Rev. 2.1	Chloride	9.6		mg Cl/L	P334435	
		Sulfate	5.0		mg SO4/L	P334438	
	SM 2120 B	Color (true)	200		PCU	P334152	
	SM 2320 B-97	Total Alkalinity	4.7		mg CaCO3/L	P334234	
	SM 2540 C-97	TDS	75		mg/L	P334420	
	SM 2540 D-97	TSS	2	U	mg/L	P334964	
	SM 4500 F-C-97	Fluoride	0.052	I	mg F/L	P334461	
1940241	EPA 350.1 Rev. 2.0	Ammonia-N	0.061		mg N/L	P334711	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P334454	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.041		mg N/L	P334455	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P334298	
	SM 5310 B-00	Organic Carbon	25		mg C/L	P334706	
1940243	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P334136	

Ref. Method and Comment:

SM 2120 B: Batch relative percent difference is unavailable because of low 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.

SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P334128

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334435

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334438

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334711

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335015

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334454

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334455

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334298

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334306

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: P334136

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

Reference Method: SM 2120 B
Batch ID: P334152

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P334234

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

Reference Method: SM 2540 C-97
Batch ID: P334420

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P334964

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P334461

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P334706

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334435

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334438

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334438

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334711

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335015

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334454

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: P334455

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334298

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334306

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P334136

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

Reference Method: SM 2320 B-97
Batch ID: P334234

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	95 - 108

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P334461

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.7		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P334706

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.5		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334435

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940079	Chloride	106		P	90 - 110
1940108	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334438

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940079	Sulfate	103		P	90 - 110
1940108	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334711

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940203	Ammonia-N	105	106	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335015

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940458	Ammonia-N	105	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334454

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940301	Kjeldahl Nitrogen	109	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334455

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940030	NO2NO3-N	103	104	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334298

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940240	Total-P	99.0	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334306

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940299	Total-P	95.0	94.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P334136

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940242	O-Phosphate-P	91.0	90.0	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P334461

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940120	Fluoride	99.4	101	P/P	91 - 105

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P334128

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940238	Turbidity	0.738	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334435

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940108	Chloride	0.467	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334438

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940108	Sulfate	0.366	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334711

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940203	Ammonia-N	0.547	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335015

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940458	Ammonia-N	0.758	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334454

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940301	Kjeldahl Nitrogen	2.01	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334455

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940030	NO2NO3-N	0.253	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334298

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940240	Total-P	0.339	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334306

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940299	Total-P	0.400	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P334136

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940242	O-Phosphate-P	1.10	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P334234

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940120	Total Alkalinity	0.152	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P334420

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940295	TDS	2.45	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P334461

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940120	Fluoride	1.45	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P334706

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940203	Organic Carbon	2.12	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A79831
Included Lab Sample IDs: 1940238, 1940239, 1940244, 1940245

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: A79834
Included Lab Sample IDs: 1940242, 1940243, 1940248, 1940249

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

Reference Method: SM 2120 B
Run ID: A79841
Included Lab Sample IDs: 1940238, 1940239, 1940244, 1940245

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	103	P/P	85 - 115
Color (true)	97.5	99.2	P/P	85 - 115

Reference Method: SM 2320 B-97
Run ID: A79869
Included Lab Sample IDs: 1940238, 1940239, 1940244, 1940245

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.3	103	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A79937
Included Lab Sample IDs: 1940238, 1940239, 1940244, 1940245

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: A79937

Included Lab Sample IDs: 1940238, 1940239, 1940244, 1940245

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A79946

Included Lab Sample IDs: 1940240, 1940241, 1940246, 1940247

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

Reference Method: SM 4500 F-C-97

Run ID: A79949

Included Lab Sample IDs: 1940238, 1940239, 1940244, 1940245

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A79977

Included Lab Sample IDs: 1940240, 1940241, 1940246, 1940247

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	106	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A80031

Included Lab Sample IDs: 1940240, 1940241, 1940246, 1940247

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	99.0	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A80051

Included Lab Sample IDs: 1940240, 1940241, 1940246, 1940247

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A80055

Included Lab Sample IDs: 1940240, 1940241, 1940247

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	101	P/P	90 - 110
Ammonia-N	98.3	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A80156

Included Lab Sample IDs: 1940246

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.7	96.6	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				0.738	
EPA 300.0 Rev. 2.1	Chloride	106	105 106		0.467	
	Sulfate	103	103 103		0.366	
EPA 350.1 Rev. 2.0	Ammonia-N	99.5	105 106			0.547
	Ammonia-N	105	105 104			0.758
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108	109 105			2.01
EPA 353.2 Rev. 2.0	NO2NO3-N	104	103 104			0.253
EPA 365.1 Rev. 2.0	Total-P	93.9	99.0 98.6			0.339
	Total-P	102	95.0 94.3			0.400
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	91.0 90.0			1.10
SM 2320 B-97	Total Alkalinity	102			0.152	
SM 2540 C-97	TDS				2.45	
SM 4500 F-C-97	Fluoride	98.7	99.4 101			1.45
SM 5310 B-00	Organic Carbon	99.5				2.12

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1940238, 1940239, 1940244, 1940245
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1940238, 1940239, 1940244, 1940245
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1940238, 1940239, 1940244, 1940245
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1940240, 1940241, 1940246, 1940247
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1940240, 1940241, 1940246, 1940247
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1940240, 1940241, 1940246, 1940247
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1940240, 1940241, 1940246, 1940247
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1940242, 1940243, 1940248, 1940249
SM 2120 B / E31780	True Color measured at 450 nm	1940238, 1940239, 1940244, 1940245
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1940238, 1940239, 1940244, 1940245
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1940238, 1940239, 1940244, 1940245
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1940238, 1940239, 1940244, 1940245
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1940238, 1940239, 1940244, 1940245
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1940240, 1940241, 1940246, 1940247

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	10/26/2017			10/26/2017 16:10	DeAsia Armster	1940238, 1940239, 1940244, 1940245
EPA 300.0 Rev. 2.1	10/26/2017			11/01/2017	Julia Storbeck	1940238, 1940239, 1940244, 1940245
EPA 350.1 Rev. 2.0	10/26/2017			11/03/2017	Sofia Elnemr	1940240, 1940241, 1940247
	10/26/2017			11/08/2017	Sofia Elnemr	1940246
EPA 351.2 Rev. 2.0	10/26/2017	11/01/2017	Adrian Shelby	11/02/2017	Joseph Suarez	1940240, 1940241, 1940246, 1940247
EPA 353.2 Rev. 2.0	10/26/2017			11/01/2017	Beverly Y. Sanders	1940240, 1940241, 1940246, 1940247
EPA 365.1 Rev. 2.0	10/26/2017	10/30/2017	Sima Feizi	11/01/2017	Lipi Saha	1940240, 1940241, 1940246, 1940247
EPA 365.1 Rev. 2.0 dissolved	10/26/2017			10/26/2017 14:51	Megan Treadwell	1940243
	10/26/2017			10/26/2017 14:52	Megan Treadwell	1940248
	10/26/2017			10/26/2017 14:53	Megan Treadwell	1940249
	10/26/2017			10/26/2017 15:15	Megan Treadwell	1940242
SM 2120 B	10/26/2017			10/26/2017 16:41	Tanya Welborn	1940238
	10/26/2017			10/26/2017 16:42	Tanya Welborn	1940244
	10/26/2017			10/26/2017 16:43	Tanya Welborn	1940245
	10/26/2017			10/26/2017 17:19	Tanya Welborn	1940239
SM 2320 B-97	10/26/2017			10/28/2017	Dale L. Simmons	1940238, 1940239, 1940244, 1940245
SM 2540 C-97	10/26/2017			10/27/2017	DeAsia Armster	1940238, 1940239, 1940244, 1940245
SM 2540 D-97	10/26/2017			10/27/2017	DeAsia Armster	1940238, 1940239, 1940244, 1940245
SM 4500 F-C-97	10/26/2017			10/31/2017	Dale L. Simmons	1940238, 1940239, 1940244, 1940245
SM 5310 B-00	10/26/2017			11/04/2017	Ping Hua	1940240, 1940241, 1940246, 1940247