

Chemical Analysis Report

CEN-DIST-2018-01-09-01

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

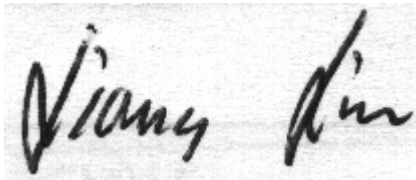
Event Description: **Tiger Crk / Reedy Below Lk Russ + D&B**
Request ID: **RQ-2018-01-01-25**
Customer: **CEN-DIST**
Project ID: **SMP**

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

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 26-JAN-2018 15:49

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored 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 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: Reedy Creek @ 200m US of confluence with Dead River (3170A)

Collection Date/Time: 01/08/2018 11:40

Field ID: G4CE0145

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1957873	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P337969	
	EPA 300.0 Rev. 2.1	Chloride	27		mg Cl/L	P338149	
		Sulfate	1.8		mg SO4/L	P338152	
	SM 2120 B	Color (true)	450		PCU	P337957	
	SM 2320 B-97	Total Alkalinity	30		mg CaCO3/L	P338229	
	SM 2540 C-97	TDS	184		mg/L	P338241	
	SM 2540 D-97	TSS	3	I	mg/L	P338290	
	SM 4500 F-C-97	Fluoride	0.083	I	mg F/L	P338237	
1957876	EPA 350.1 Rev. 2.0	Ammonia-N	0.037		mg N/L	P338356	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P338006	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.083		mg N/L	P338014	
	EPA 365.1 Rev. 2.0	Total-P	0.055		mg P/L	P338022	
	SM 5310 B-00	Organic Carbon	42		mg C/L	P338259	
1957879	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.039		mg P/L	P337992	

Ref. Method and Comment:

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: Reedy Creek @ 200m US of confluence with Dead River (3170A)

Collection Date/Time: 01/08/2018 11:42

Field ID: G4CE0145_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1957874	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P337969	
	EPA 300.0 Rev. 2.1	Chloride	27		mg Cl/L	P338149	
		Sulfate	1.7		mg SO4/L	P338152	
	SM 2120 B	Color (true)	450		PCU	P337957	
	SM 2320 B-97	Total Alkalinity	30		mg CaCO3/L	P338229	
	SM 2540 C-97	TDS	179		mg/L	P338241	
	SM 2540 D-97	TSS	4	I	mg/L	P338290	
	SM 4500 F-C-97	Fluoride	0.086	I	mg F/L	P338237	
1957877	EPA 350.1 Rev. 2.0	Ammonia-N	0.037		mg N/L	P338356	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P338006	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.085		mg N/L	P338014	
	EPA 365.1 Rev. 2.0	Total-P	0.057		mg P/L	P338022	
	SM 5310 B-00	Organic Carbon	42		mg C/L	P338259	
1957880	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.040		mg P/L	P337992	

Ref. Method and Comment:

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: Reedy Creek @ 200m US of confluence with Dead River (3170A)

Collection Date/Time: 01/08/2018 12:38

Field ID: BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1957875	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P337969	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P338149	
		Sulfate	0.20	U	mg SO4/L	P338152	
	SM 2120 B	Color (true)	2.5	U	PCU	P337957	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P338229	
	SM 2540 C-97	TDS	15	U	mg/L	P338239	
	SM 2540 D-97	TSS	2	U	mg/L	P338288	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P338237	
1957878	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P338356	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P338006	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P338014	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P338024	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P338259	
1957881	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P337992	

Ref. Method and Comment:

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

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P337969

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P338149

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P338152

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P338356

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P338006

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: P338014

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P338022

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P338024

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P337992

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

Reference Method: SM 2120 B
Batch ID: P337957

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P338229

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

Reference Method: SM 2540 C-97
Batch ID: P338239

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P338241

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P338288

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
 Batch ID: P338290

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P338237

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P338259

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: P338149

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

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P338152

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P338356

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.1		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P338006

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P338014

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	102		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P338022

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P338022

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P338024

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P337992

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

Reference Method: SM 2320 B-97
Batch ID: P338229

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

Reference Method: SM 4500 F-C-97
Batch ID: P338237

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.0		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P338259

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P338149

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1957865	Chloride	95.7		P	90 - 110
1957901	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P338152

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1957865	Sulfate	94.0		P	90 - 110
1957901	Sulfate	98.5		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P338356

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1957876	Ammonia-N	98.1	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P338006

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1957907	Kjeldahl Nitrogen	107	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P338014

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1957904	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P338022

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1957827	Total-P	97.3	97.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P338024

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1957945	Total-P	98.5	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P337992

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1957828	O-Phosphate-P	99.0	98.3	P/P	90 - 110

Reference Method: SM 4500 F-C-97
 Batch ID: P338237

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1958023	Fluoride	98.5	98.5	P/P	91 - 105

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P337969

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1957900	Turbidity	0.909	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P338149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1957865	Chloride	3.89	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P338152

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1957865	Sulfate	4.06	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P338356

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1957876	Ammonia-N	0.532	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P338006

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1957907	Kjeldahl Nitrogen	0.756	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P338014

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1957904	NO2NO3-N	0.473	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P338022

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1957827	Total-P	0.0599	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P338024

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1957945	Total-P	0.874	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P337992

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1957828	O-Phosphate-P	0.373	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P337957

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1957900	Color (true)	1.70	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P338229

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1958023	Total Alkalinity	0.150	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P338239

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1957572	TDS	5.50	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P338241

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1957852	TDS	7.07	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P338237

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1958023	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P338259

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1957876	Organic Carbon	0.0811	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: A81350
Included Lab Sample IDs: 1957873, 1957874, 1957875

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	97.5	P/P	85 - 115
Color (true)	102	103	P/P	85 - 115

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A81353

Included Lab Sample IDs: 1957873, 1957874, 1957875

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.0	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A81364

Included Lab Sample IDs: 1957879, 1957880, 1957881

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.3	98.8	P/P	90 - 110
O-Phosphate-P	98.8	98.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A81373

Included Lab Sample IDs: 1957876, 1957877, 1957878

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A81397

Included Lab Sample IDs: 1957873, 1957874, 1957875

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.6	101	P/P	90 - 110
Sulfate	99.5	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A81404

Included Lab Sample IDs: 1957876, 1957877, 1957878

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A81413

Included Lab Sample IDs: 1957876, 1957877

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.4	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A81414

Included Lab Sample IDs: 1957878

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

Reference Method: SM 2320 B-97

Run ID: A81452

Included Lab Sample IDs: 1957873, 1957874, 1957875

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

Reference Method: SM 2320 B-97

Run ID: A81452

Included Lab Sample IDs: 1957873, 1957874, 1957875

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

Reference Method: SM 4500 F-C-97

Run ID: A81452

Included Lab Sample IDs: 1957873, 1957874, 1957875

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

Reference Method: SM 5310 B-00

Run ID: A81463

Included Lab Sample IDs: 1957876, 1957877, 1957878

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	97.8	P/P	90 - 110
Organic Carbon	97.8	97.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A81494

Included Lab Sample IDs: 1957876, 1957877, 1957878

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.2	99.4	P/P	90 - 110
Ammonia-N	99.4	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				0.909	
EPA 300.0 Rev. 2.1	Chloride	98.7	95.7 100		3.89	
	Sulfate	97.8	94.0 98.5		4.06	
EPA 350.1 Rev. 2.0	Ammonia-N	98.1	98.1 99.0			0.532
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	107 106			0.756
EPA 353.2 Rev. 2.0	NO2NO3-N	102	102 101			0.473
EPA 365.1 Rev. 2.0	Total-P	104	97.3 97.4			0.0599
	Total-P	101	98.5 99.6			0.874
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	103	99.0 98.3			0.373
SM 2120 B	Color (true)				1.70	
SM 2320 B-97	Total Alkalinity	102			0.150	
SM 2540 C-97	TDS				5.50	
	TDS				7.07	
SM 4500 F-C-97	Fluoride	98.0	98.5 98.5			0.0
SM 5310 B-00	Organic Carbon	99.6				0.0811

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1957873, 1957874, 1957875
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1957873, 1957874, 1957875
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1957873, 1957874, 1957875
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1957876, 1957877, 1957878
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1957876, 1957877, 1957878
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1957876, 1957877, 1957878
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1957876, 1957877, 1957878
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1957879, 1957880, 1957881
SM 2120 B / E31780	True Color measured at 450 nm	1957873, 1957874, 1957875
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1957873, 1957874, 1957875
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1957873, 1957874, 1957875
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1957873, 1957874, 1957875
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1957873, 1957874, 1957875
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1957876, 1957877, 1957878

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	01/09/2018			01/09/2018 15:49	DeAsia Armster	1957873, 1957874, 1957875
EPA 300.0 Rev. 2.1	01/09/2018			01/11/2018	Julia Storbeck	1957873, 1957874, 1957875
EPA 350.1 Rev. 2.0	01/09/2018			01/17/2018	Sofia Elnemr	1957876, 1957877, 1957878
EPA 351.2 Rev. 2.0	01/09/2018	01/10/2018	Adrian Shelby	01/11/2018	Joseph Suarez	1957876, 1957877, 1957878
EPA 353.2 Rev. 2.0	01/09/2018			01/10/2018	Beverly Y. Sanders	1957876, 1957877, 1957878
EPA 365.1 Rev. 2.0	01/09/2018	01/10/2018	Sima Feizi	01/11/2018	Beverly Y. Sanders	1957876, 1957877, 1957878
EPA 365.1 Rev. 2.0 dissolved	01/09/2018			01/09/2018 15:09	Megan Treadwell	1957879
	01/09/2018			01/09/2018 15:14	Megan Treadwell	1957880
	01/09/2018			01/09/2018 15:15	Megan Treadwell	1957881
	01/09/2018			01/09/2018 14:45	Tanya Welborn	1957875
SM 2120 B	01/09/2018			01/09/2018 15:14	Tanya Welborn	1957873
	01/09/2018			01/09/2018 15:15	Tanya Welborn	1957874
	01/09/2018			01/13/2018	Dale L. Simmons	1957873, 1957874, 1957875
SM 2320 B-97	01/09/2018			01/10/2018	Yijie Li	1957873, 1957874, 1957875
SM 2540 C-97	01/09/2018			01/10/2018	Yijie Li	1957873, 1957874, 1957875
SM 2540 D-97	01/09/2018			01/13/2018	Dale L. Simmons	1957873, 1957874, 1957875
SM 4500 F-C-97	01/09/2018			01/10/2018	Megan Treadwell	1957876
SM 5310 B-00	01/09/2018			01/11/2018	Megan Treadwell	1957877, 1957878
	01/09/2018					