

Chemical Analysis Report

CEN-DIST-2019-01-08-01

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

Event Description: **Hope / Yvonne / Park + D&B**
Request ID: **RQ-2019-01-07-38**
Customer: **CEN-DIST**
Project ID: **SMP**

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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 28-JAN-2019 13:09

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the "T" and a long horizontal stroke at the end.

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: Lake Yvonne (Lake Vonna) @ Center

Collection Date/Time: 01/07/2019 10:56

Field ID: G2CE0095

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2052136	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P356983	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P356992	
		Sulfate	8.2		mg SO4/L	P356994	
	SM 2120 B	Color (true)	41		PCU	P356964	
	SM 2320 B-97	Total Alkalinity	41		mg CaCO3/L	P357388	
	SM 2540 C-97	TDS	88		mg/L	P357442	
	SM 2540 D-97	TSS	2	I	mg/L	P357570	
	SM 4500 F-C-97	Fluoride	0.27		mg F/L	P357521	
2052139	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P357123	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P357016	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P357004	
	EPA 365.1 Rev. 2.0	Total-P	0.041		mg P/L	P357024	
	SM 5310 B-00	Organic Carbon	7.7		mg C/L	P357193	
2052142	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P356968	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: 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.

Sample Location: Lake Hope @ Center

Collection Date/Time: 01/07/2019 12:06

Field ID: G2CE0106

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2052137	EPA 180.1 Rev. 2.0	Turbidity	0.65		NTU	P356983	
	EPA 300.0 Rev. 2.1	Chloride	47		mg Cl/L	P356992	
		Sulfate	21		mg SO4/L	P356994	
	SM 2120 B	Color (true)	20		PCU	P356964	
	SM 2320 B-97	Total Alkalinity	40		mg CaCO3/L	P357388	
	SM 2540 C-97	TDS	150		mg/L	P357442	
	SM 2540 D-97	TSS	2	I	mg/L	P357570	
	SM 4500 F-C-97	Fluoride	0.062	I	mg F/L	P357521	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P357124	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.49		mg N/L	P357016	
2052140	EPA 353.2 Rev. 2.0	NO2NO3-N	0.040		mg N/L	P357004	
	EPA 365.1 Rev. 2.0	Total-P	0.019		mg P/L	P357024	
	SM 5310 B-00	Organic Carbon	5.6		mg C/L	P357193	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P356968	
	dissolved						

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: 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.

Sample Location: Lake Park @ Center

Collection Date/Time: 01/07/2019 12:43

Field ID: G2CE0009

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2052138	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P356983	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P356992	
		Sulfate	9.0		mg SO4/L	P356994	
	SM 2120 B	Color (true)	16		PCU	P356964	
	SM 2320 B-97	Total Alkalinity	66		mg CaCO3/L	P357388	
	SM 2540 C-97	TDS	108	A	mg/L	P357442	
	SM 2540 D-97	TSS	4	IA	mg/L	P357570	
	SM 4500 F-C-97	Fluoride	0.052	I	mg F/L	P357521	
2052141	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P357124	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.71		mg N/L	P357016	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P357004	
	EPA 365.1 Rev. 2.0	Total-P	0.036		mg P/L	P357024	
	SM 5310 B-00	Organic Carbon	6.4		mg C/L	P357193	
2052144	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P356969	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: 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.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P356983

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P356992

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P356994

Component	Result	Code	Units
Sulfate	0.20	U	mg SO ₄ /L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P357123

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P357124

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P357016

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P357004

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: P357024

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P356968

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P356969

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

Reference Method: SM 2120 B
Batch ID: P356964

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P357388

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

Reference Method: SM 2540 C-97
Batch ID: P357442

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P357570

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P357521

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P357193

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: P356992

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

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P356994

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P357123

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P357124

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P357016

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P357004

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	99.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P357024

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P356968

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P356969

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.2		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B
Batch ID: P356964

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

Reference Method: SM 2320 B-97
Batch ID: P357388

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P357521

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.9		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P357193

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P356992

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2052020	Chloride	98.5		P	90 - 110
2052100	Chloride	97.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P356994

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2052020	Sulfate	93.8		P	90 - 110
2052100	Sulfate	97.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P357123

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2052081	Ammonia-N	101	99.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P357124

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2052140	Ammonia-N	95.5	97.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P357016

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2052118	Kjeldahl Nitrogen	107	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P357004

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2052083	NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P357024

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2052151	Total-P	102	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P356968

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2052142	O-Phosphate-P	94.8	96.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P356969

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2052144	O-Phosphate-P	93.2	94.9	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P357521

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2052977	Fluoride	98.1	99.2	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P357193

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2052118	Organic Carbon	98.5	95.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P356983

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2052116	Turbidity	5.81	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P356992

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2052020	Chloride	0.341	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P357123

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2052081	Ammonia-N	0.465	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P357124

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2052140	Ammonia-N	1.74	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P357016

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2052118	Kjeldahl Nitrogen	1.23	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P357004

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2052083	NO2NO3-N	0.245	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P357024

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2052151	Total-P	2.25	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P356968

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2052142	O-Phosphate-P	1.31	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P356969

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2052144	O-Phosphate-P	1.81	Spike	P	0 - 20

Reference Method: SM 2120 B
 Batch ID: P356964

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2052117	Color (true)	1.48	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P357388

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2052977	Total Alkalinity	0.539	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
 Batch ID: P357442

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2052138	TDS	8.37	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P357521

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2052977	Fluoride	0.968	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
 Batch ID: P357193

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2052118	Organic Carbon	1.73	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 300.0 Rev. 2.1

Run ID: A88626

Included Lab Sample IDs: 2052136, 2052137, 2052138

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	101	P/P	90 - 110
Sulfate	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A88703

Included Lab Sample IDs: 2052142, 2052143, 2052144

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	98.8	P/P	90 - 110
O-Phosphate-P	98.3	98.2	P/P	90 - 110
O-Phosphate-P	98.8	99.1	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A88704

Included Lab Sample IDs: 2052136, 2052137, 2052138

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A88710

Included Lab Sample IDs: 2052136, 2052137, 2052138

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A88716

Included Lab Sample IDs: 2052139, 2052140, 2052141

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	99.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A88760

Included Lab Sample IDs: 2052139, 2052140, 2052141

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.4	P/P	90 - 110
Ammonia-N	99.0	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A88769

Included Lab Sample IDs: 2052139, 2052140, 2052141

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A88785

Included Lab Sample IDs: 2052139, 2052140, 2052141

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.7	96.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A88790

Included Lab Sample IDs: 2052139, 2052140, 2052141

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

Reference Method: SM 2320 B-97

Run ID: A88858

Included Lab Sample IDs: 2052136, 2052137, 2052138

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

Reference Method: SM 4500 F-C-97

Run ID: A88903

Included Lab Sample IDs: 2052136, 2052137, 2052138

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	99.1	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					5.81	
EPA 300.0 Rev. 2.1	Chloride	99.4	98.5	97.6		0.341	
	Sulfate	97.4	93.8	97.0			
EPA 350.1 Rev. 2.0	Ammonia-N	97.9	101	99.9			0.465
	Ammonia-N	97.8	95.5	97.4			1.74
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	107	105			1.23
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	99.0				0.245
EPA 365.1 Rev. 2.0	Total-P	98.5	102	105			2.25
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.4	94.8	96.2			1.31
	O-Phosphate-P	97.2	93.2	94.9			1.81
SM 2120 B	Color (true)	101				1.48	
SM 2320 B-97	Total Alkalinity	102				0.539	
SM 2540 C-97	TDS					8.37	
SM 4500 F-C-97	Fluoride	94.9	98.1	99.2			0.968
SM 5310 B-00	Organic Carbon	96.6	98.5	95.6			1.73

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2052136, 2052137, 2052138
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2052136, 2052137, 2052138
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2052136, 2052137, 2052138
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2052139, 2052140, 2052141
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2052139, 2052140, 2052141
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2052139, 2052140, 2052141
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2052139, 2052140, 2052141
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2052142, 2052143, 2052144
SM 2120 B / E31780	True Color measured at 450 nm	2052136, 2052137, 2052138
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2052136, 2052137, 2052138
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2052136, 2052137, 2052138
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2052136, 2052137, 2052138
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2052136, 2052137, 2052138
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2052139, 2052140, 2052141

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	01/08/2019			01/08/2019 17:18	Megan Treadwell	2052136, 2052137, 2052138
EPA 300.0 Rev. 2.1	01/08/2019			01/08/2019 20:53	Lipi Saha	2052136
	01/08/2019			01/08/2019 21:05	Lipi Saha	2052137
	01/08/2019			01/08/2019 21:17	Lipi Saha	2052138
EPA 350.1 Rev. 2.0	01/08/2019			01/10/2019 12:53	Ping Hua	2052139
	01/08/2019			01/10/2019 12:59	Ping Hua	2052140
	01/08/2019			01/10/2019 13:11	Ping Hua	2052141
EPA 351.2 Rev. 2.0	01/08/2019	01/09/2019 11:30	Adrian Shelby	01/10/2019 14:52	Joseph Suarez	2052139
	01/08/2019	01/09/2019 11:30	Adrian Shelby	01/10/2019 14:54	Joseph Suarez	2052140
	01/08/2019	01/09/2019 11:30	Adrian Shelby	01/10/2019 14:55	Joseph Suarez	2052141
EPA 353.2 Rev. 2.0	01/08/2019			01/09/2019 10:19	Beverly Y. Sanders	2052139
	01/08/2019			01/09/2019 10:20	Beverly Y. Sanders	2052140
	01/08/2019			01/09/2019 10:21	Beverly Y. Sanders	2052141
EPA 365.1 Rev. 2.0	01/08/2019	01/09/2019 12:35	Sima Feizi	01/11/2019 13:20	Rosalyn Ballman	2052139
	01/08/2019	01/09/2019 12:35	Sima Feizi	01/11/2019 13:21	Rosalyn Ballman	2052140
	01/08/2019	01/09/2019 12:35	Sima Feizi	01/11/2019 13:22	Rosalyn Ballman	2052141
EPA 365.1 Rev. 2.0 dissolved	01/08/2019			01/08/2019 15:19	Jhamieka S. Greenwood	2052142
	01/08/2019			01/08/2019 15:27	Jhamieka S. Greenwood	2052144
	01/08/2019			01/08/2019 16:09	Jhamieka S. Greenwood	2052143
SM 2120 B	01/08/2019			01/08/2019 15:45	Chelsea Hernandez	2052136, 2052137
	01/08/2019			01/08/2019 15:46	Chelsea Hernandez	2052138
SM 2320 B-97	01/08/2019			01/16/2019 06:49	Dale L. Simmons	2052136
	01/08/2019			01/16/2019 07:05	Dale L. Simmons	2052137
	01/08/2019			01/16/2019 07:21	Dale L. Simmons	2052138
SM 2540 C-97	01/08/2019			01/10/2019 14:35	Yijie Li	2052136, 2052137, 2052138
SM 2540 D-97	01/08/2019			01/10/2019 14:35	Yijie Li	2052136, 2052137, 2052138
SM 4500 F-C-97	01/08/2019			01/17/2019 21:43	Dale L. Simmons	2052136
	01/08/2019			01/17/2019 21:51	Dale L. Simmons	2052137
	01/08/2019			01/17/2019 21:59	Dale L. Simmons	2052138
SM 5310 B-00	01/08/2019			01/12/2019 01:59	Megan Treadwell	2052139
	01/08/2019			01/12/2019 02:12	Megan Treadwell	2052140
	01/08/2019			01/12/2019 02:26	Megan Treadwell	2052141