

Chemical Analysis Report

CEN-DIST-2019-05-29-01

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

Event Description: **Terrace / Bass / Theresa + LVI**
Request ID: **RQ-2019-05-27-22**
Customer: **CEN-DIST**
Project ID: **SMP**

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

Date Certified: 10-JUN-2019 13:26

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 by the Florida Department of Health Environmental Laboratory Certification Program 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 Theresa @ Center

Collection Date/Time: 05/28/2019 09:33

Field ID: G4CE0151

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2089429	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P364699	
	EPA 300.0 Rev. 2.1	Chloride	6.2		mg Cl/L	P364935	
		Sulfate	2.1		mg SO4/L	P364937	
	SM 2120 B	Color (true)	26	A	PCU	P364663	
	SM 2320 B-97	Total Alkalinity	50		mg CaCO3/L	P364859	
	SM 2540 C-97	TDS	60		mg/L	P365258	
	SM 2540 D-97	TSS	4	I	mg/L	P365056	
	SM 4500 F-C-97	Fluoride	0.097	I	mg F/L	P364863	
2089432	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P364916	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P364896	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P364727	
	EPA 365.1 Rev. 2.0	Total-P	0.053		mg P/L	P364901	
	SM 5310 B-00	Organic Carbon	6.3		mg C/L	P364798	
2089435	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P364677	

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 Bass @ Center of Lake

Collection Date/Time: 05/28/2019 10:04

Field ID: G4CE0147

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2089430	EPA 180.1 Rev. 2.0	Turbidity	8.5		NTU	P364699	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P364935	
		Sulfate	22		mg SO4/L	P364937	
	SM 2120 B	Color (true)	12		PCU	P364663	
	SM 2320 B-97	Total Alkalinity	46	A	mg CaCO3/L	P365079	
	SM 2540 C-97	TDS	101		mg/L	P365258	
	SM 2540 D-97	TSS	5	I	mg/L	P365056	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P365084	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P364916	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P364896	
2089433	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P364727	
	EPA 365.1 Rev. 2.0	Total-P	0.034		mg P/L	P364901	
	SM 5310 B-00	Organic Carbon	6.3		mg C/L	P364798	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P364677	
	dissolved						

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 Terrace @ Center

Collection Date/Time: 05/28/2019 10:42

Field ID: G4CE0153

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2089431	EPA 180.1 Rev. 2.0	Turbidity	6.6		NTU	P364699	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P364935	
		Sulfate	25		mg SO4/L	P364937	
	SM 2120 B	Color (true)	9.9		PCU	P364663	
	SM 2320 B-97	Total Alkalinity	39		mg CaCO3/L	P365079	
	SM 2540 C-97	TDS	124	A	mg/L	P365258	
	SM 2540 D-97	TSS	5	IA	mg/L	P365056	
	SM 4500 F-C-97	Fluoride	0.048	I	mg F/L	P365084	
2089434	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P364916	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P364896	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.015		mg N/L	P364727	
	EPA 365.1 Rev. 2.0	Total-P	0.059		mg P/L	P364901	
	SM 5310 B-00	Organic Carbon	5.1		mg C/L	P364798	
2089437	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P364677	

Ref. Method and Comment:

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: P364699

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364935

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364937

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364916

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364896

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364727

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364901

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P364677

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

Reference Method: SM 2120 B
Batch ID: P364663

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P364859

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

Reference Method: SM 2320 B-97
Batch ID: P365079

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

Reference Method: SM 2540 C-97
Batch ID: P365258

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P365056

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P364863

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P365084

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P364798

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: P364935

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364937

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364916

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364896

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364727

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364901

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P364677

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

Reference Method: SM 2120 B
Batch ID: P364663

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

Reference Method: SM 2320 B-97
Batch ID: P364859

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P365079

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P364863

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.4		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P365084

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.4		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P364798

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	105		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364935

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2089211	Chloride	99.6		P	90 - 110
2089534	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364937

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2089211	Sulfate	101		P	90 - 110
2089534	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364916

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2089535	Ammonia-N	101	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364896

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2089432	Kjeldahl Nitrogen	102	109	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364727

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2089407	NO2NO3-N	97.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364901

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2089433	Total-P	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P364677

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2089411	O-Phosphate-P	93.7	94.7	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P364863

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2089037	Fluoride	101	102	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P365084

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2089430	Fluoride	105	104	P/P	89 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P364798

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2089040	Organic Carbon	106	106	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P364699

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089445	Turbidity	1.35	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364935

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089534	Chloride	6.03	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364937

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089534	Sulfate	6.30	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364916

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089535	Ammonia-N	0.672	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364896

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089432	Kjeldahl Nitrogen	4.12	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364727

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089407	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364901

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089433	Total-P	1.26	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P364677

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089411	O-Phosphate-P	1.00	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
 Batch ID: P364663

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089429	Color (true)	4.68	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P364859

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089037	Total Alkalinity	0.628	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
 Batch ID: P365079

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089430	Total Alkalinity	0.863	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
 Batch ID: P365258

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089431	TDS	4.05	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P364863

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089037	Fluoride	0.958	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
 Batch ID: P365084

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089430	Fluoride	1.48	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
 Batch ID: P364798

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2089040	Organic Carbon	0.259	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: A91724

Included Lab Sample IDs: 2089429, 2089430, 2089431

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A91728

Included Lab Sample IDs: 2089435, 2089436, 2089437

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.2	95.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A91733

Included Lab Sample IDs: 2089429, 2089430, 2089431

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	98.5	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A91740

Included Lab Sample IDs: 2089432, 2089433, 2089434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	98.5	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A91779

Included Lab Sample IDs: 2089432, 2089433, 2089434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	107	107	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A91798

Included Lab Sample IDs: 2089429

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	105	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A91798

Included Lab Sample IDs: 2089429

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A91814

Included Lab Sample IDs: 2089432, 2089433, 2089434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	102	103	P/P	90 - 110
Ammonia-N	103	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A91823

Included Lab Sample IDs: 2089429, 2089430, 2089431

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A91830

Included Lab Sample IDs: 2089432, 2089433, 2089434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	108	P/P	90 - 110
Kjeldahl Nitrogen	108	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A91836

Included Lab Sample IDs: 2089432, 2089434

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A91839

Included Lab Sample IDs: 2089433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.5	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A91867

Included Lab Sample IDs: 2089430, 2089431

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	103	P/P	90 - 110
Total Alkalinity	103	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A91867

Included Lab Sample IDs: 2089430, 2089431

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.1	100	P/P	90 - 110
Fluoride	99.0	98.1	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					1.35	
EPA 300.0 Rev. 2.1	Chloride	102	103	99.6		6.03	
	Sulfate	103	103	101		6.30	
EPA 350.1 Rev. 2.0	Ammonia-N	98.8	101	100			0.672
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	102	109			4.12
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	98.5	97.2				0.0
EPA 365.1 Rev. 2.0	Total-P	103	101	102			1.26
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.1	93.7	94.7			1.00
SM 2120 B	Color (true)	101				4.68	
SM 2320 B-97	Total Alkalinity	104				0.628	
	Total Alkalinity	103				0.863	
SM 2540 C-97	TDS					4.05	
SM 4500 F-C-97	Fluoride	99.4	101	102			0.958
	Fluoride	96.4	105	104			1.48
SM 5310 B-00	Organic Carbon	105	106	106			0.259

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2089429, 2089430, 2089431
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2089429, 2089430, 2089431
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2089429, 2089430, 2089431
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2089432, 2089433, 2089434
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2089432, 2089433, 2089434
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2089432, 2089433, 2089434
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2089432, 2089433, 2089434
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2089435, 2089436, 2089437
SM 2120 B / E31780	True Color measured at 450 nm	2089429, 2089430, 2089431
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2089429, 2089430, 2089431
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2089429, 2089430, 2089431
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2089429, 2089430, 2089431
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2089429, 2089430, 2089431
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2089432, 2089433, 2089434

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	05/29/2019			05/29/2019 16:48	Adrian Shelby	2089429, 2089430, 2089431
EPA 300.0 Rev. 2.1	05/29/2019			06/03/2019 18:59	Lipi Saha	2089429
	05/29/2019			06/03/2019 19:11	Lipi Saha	2089430
	05/29/2019			06/03/2019 19:24	Lipi Saha	2089431
EPA 350.1 Rev. 2.0	05/29/2019			05/31/2019 14:40	Ping Hua	2089432
	05/29/2019			05/31/2019 14:48	Ping Hua	2089433
	05/29/2019			05/31/2019 14:49	Ping Hua	2089434
EPA 351.2 Rev. 2.0	05/29/2019	06/03/2019 13:00	Adrian Shelby	06/03/2019 23:04	Virginia P. Brown	2089432
	05/29/2019	06/03/2019 13:00	Adrian Shelby	06/03/2019 23:12	Virginia P. Brown	2089433
	05/29/2019	06/03/2019 13:00	Adrian Shelby	06/03/2019 23:14	Virginia P. Brown	2089434
EPA 353.2 Rev. 2.0	05/29/2019			05/30/2019 09:44	Beverly Y. Sanders	2089432
	05/29/2019			05/30/2019 09:45	Beverly Y. Sanders	2089433
	05/29/2019			05/30/2019 09:46	Beverly Y. Sanders	2089434
EPA 365.1 Rev. 2.0	05/29/2019	06/03/2019 11:05	Sima Feizi	06/04/2019 10:00	Rosalyn Ballman	2089432
	05/29/2019	06/03/2019 11:05	Sima Feizi	06/04/2019 10:01	Rosalyn Ballman	2089434
	05/29/2019	06/03/2019 11:05	Sima Feizi	06/04/2019 12:39	Rosalyn Ballman	2089433
EPA 365.1 Rev. 2.0 dissolved	05/29/2019			05/29/2019 16:36	Jhamieka S. Greenwood	2089435
	05/29/2019			05/29/2019 16:37	Jhamieka S. Greenwood	2089436
	05/29/2019			05/29/2019 16:38	Jhamieka S. Greenwood	2089437
SM 2120 B	05/29/2019			05/29/2019 15:12	Madeline Funaro	2089429
	05/29/2019			05/29/2019 15:13	Madeline Funaro	2089430, 2089431
SM 2320 B-97	05/29/2019			06/02/2019 01:10	Dale L. Simmons	2089429
	05/29/2019			06/04/2019 16:56	Samantha Davila	2089430
	05/29/2019			06/04/2019 19:20	Samantha Davila	2089431
SM 2540 C-97	05/29/2019			05/31/2019 15:11	Yijie Li	2089429, 2089430, 2089431
SM 2540 D-97	05/29/2019			05/31/2019 15:11	Yijie Li	2089429, 2089430, 2089431
SM 4500 F-C-97	05/29/2019			06/02/2019 01:10	Dale L. Simmons	2089429
	05/29/2019			06/04/2019 16:46	Samantha Davila	2089430
	05/29/2019			06/04/2019 19:20	Samantha Davila	2089431
SM 5310 B-00	05/29/2019			05/31/2019 03:20	Julia Storbeck	2089432
	05/29/2019			05/31/2019 03:32	Julia Storbeck	2089433
	05/29/2019			05/31/2019 03:44	Julia Storbeck	2089434