

Chemical Analysis Report

NW-DIST-2019-11-21-02

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

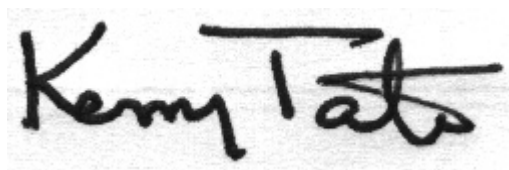
Event Description: **98 Whaler Run**
Request ID: **RQ-2019-11-18-29**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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

Date Certified: 11-DEC-2019 11:19

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 first name.

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: Mack Bayou

Collection Date/Time: 11/20/2019 10:15

Field ID: G3NW0128

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138121	EPA 180.1 Rev. 2.0	Turbidity	0.80		NTU	P374654	
	EPA 300.0	Bromide	48		mg Br/L	P374982	
	SM 2320 B-97	Total Alkalinity	98		mg CaCO3/L	P374791	
	SM 2540 D-97	TSS	4	I	mg/L	P375132	
	SM 4500 F-C-97	Fluoride	0.82		mg F/L	P374794	
2138122	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P375088	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.26	I	mg N/L	P374917	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P374868	
	EPA 365.1 Rev. 2.0	Total-P	0.009	I	mg P/L	P375122	
	SM 5310 B-00	Organic Carbon	2.0		mg C/L	P374889	
2138123	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P374597	

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: Eagle Creek upstream of Hwy 20

Collection Date/Time: 11/20/2019 11:30

Field ID: G3NW0151

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138124	EPA 180.1 Rev. 2.0	Turbidity	0.35		NTU	P374654	
	EPA 300.0	Bromide	0.017	I	mg Br/L	P374982	
	SM 2320 B-97	Total Alkalinity	0.97	I	mg CaCO3/L	P374989	
	SM 2540 D-97	TSS	2	I	mg/L	P375131	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P374994	
2138125	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P374937	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P374964	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P375425	
	EPA 365.1 Rev. 2.0	Total-P	0.004	I	mg P/L	P375123	
	SM 5310 B-00	Organic Carbon	4.3		mg C/L	P374888	
2138126	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P374597	

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: P374654

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0
Batch ID: P374982

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374937

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P375088

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374917

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374964

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374868

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P375425

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375122

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
Batch ID: P375123

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374597

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

Reference Method: SM 2320 B-97
Batch ID: P374791

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

Reference Method: SM 2320 B-97
Batch ID: P374989

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

Reference Method: SM 2540 D-97
Batch ID: P375131

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P375132

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P374794

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P374994

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P374888

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P374889

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0
Batch ID: P374982

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374937

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P375088

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374917

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374964

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374868

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	100		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P375425

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375122

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375123

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374597

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

Reference Method: SM 2320 B-97
Batch ID: P374791

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 106

Reference Method: SM 2320 B-97
Batch ID: P374989

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

Reference Method: SM 4500 F-C-97
Batch ID: P374794

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

Reference Method: SM 4500 F-C-97
Batch ID: P374994

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P374888

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

Reference Method: SM 5310 B-00
Batch ID: P374889

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0
Batch ID: P374982

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137966	Bromide	97.1	98.8	P/P	90 - 110
2138124	Bromide	98.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374937

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137942	Ammonia-N	102	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P375088

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138122	Ammonia-N	103	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374917

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138392	Kjeldahl Nitrogen	99.8	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374964

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138185	Kjeldahl Nitrogen	97.1	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374868

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138098	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P375425

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2139936	NO2NO3-N	98.5	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375122

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138122	Total-P	99.1	96.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375123

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138185	Total-P	103	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374597

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137997	O-Phosphate-P	95.5	95.9	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P374794

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137447	Fluoride	94.6	94.6	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P374994

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138154	Fluoride	97.9	96.6	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P374888

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137969	Organic Carbon	106	105	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P374889

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137468	Organic Carbon	102	102	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P374654

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137998	Turbidity	5.63	Sample	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P374982

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137966	Bromide	1.62	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374937

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137942	Ammonia-N	0.572	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P375088

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138122	Ammonia-N	1.30	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374917

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138392	Kjeldahl Nitrogen	1.08	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374964

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138185	Kjeldahl Nitrogen	5.00	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138098	NO2NO3-N	0.473	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P375425

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2139936	NO2NO3-N	0.506	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375122

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138122	Total-P	3.10	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375123

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138185	Total-P	1.05	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374597

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137997	O-Phosphate-P	0.418	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P374791

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137447	Total Alkalinity	0.496	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P374989

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138154	Total Alkalinity	0.125	Sample	P	0 - 2.8

Reference Method: SM 4500 F-C-97
Batch ID: P374794

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137447	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P374994

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138154	Fluoride	0.960	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P374888

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137969	Organic Carbon	0.632	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P374889

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137468	Organic Carbon	0.478	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A95880

Included Lab Sample IDs: 2138123, 2138126

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A95900

Included Lab Sample IDs: 2138121, 2138124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	100	P/P	95 - 105

Reference Method: SM 2320 B-97

Run ID: A95947

Included Lab Sample IDs: 2138121

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

Reference Method: SM 4500 F-C-97

Run ID: A95947

Included Lab Sample IDs: 2138121

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95966

Included Lab Sample IDs: 2138122

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A95973

Included Lab Sample IDs: 2138122, 2138125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	102	P/P	90 - 110
Organic Carbon	99.8	98.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A95997

Included Lab Sample IDs: 2138125

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

Reference Method: EPA 300.0

Run ID: A96019

Included Lab Sample IDs: 2138121, 2138124

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0

Run ID: A96019

Included Lab Sample IDs: 2138121, 2138124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	99.9	103	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A96025

Included Lab Sample IDs: 2138124

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

Reference Method: SM 4500 F-C-97

Run ID: A96025

Included Lab Sample IDs: 2138124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A96052

Included Lab Sample IDs: 2138122, 2138125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	98.4	P/P	90 - 110
Kjeldahl Nitrogen	98.4	99.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A96062

Included Lab Sample IDs: 2138122

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A96122

Included Lab Sample IDs: 2138125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A96146

Included Lab Sample IDs: 2138122, 2138125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	98.8	P/P	90 - 110
Total-P	99.8	100	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						5.63	
EPA 300.0	Bromide	99.4	97.1	98.8	98.5			1.62
EPA 350.1 Rev. 2.0	Ammonia-N	100	102	103				0.572
	Ammonia-N	99.9	103	105				1.30
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.9	99.8	101				1.08
	Kjeldahl Nitrogen	98.8	97.1	104				5.00
EPA 353.2 Rev. 2.0	NO2NO3-N	100	102	101				0.473
	NO2NO3-N	99.5	98.5	99.0				0.506
EPA 365.1 Rev. 2.0	Total-P	107	99.1	96.0				3.10
	Total-P	106	103	102				1.05
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.5	95.5	95.9				0.418
SM 2320 B-97	Total Alkalinity	102					0.496	
	Total Alkalinity	103					0.125	
SM 4500 F-C-97	Fluoride	99.4	94.6	94.6				0.0
	Fluoride	97.2	97.9	96.6				0.960
SM 5310 B-00	Organic Carbon	106	106	105				0.632
	Organic Carbon	102	102	102				0.478

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2138121, 2138124
EPA 300.0 / E31780	Bromide in aqueous matrices	2138121, 2138124
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2138122, 2138125
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2138122, 2138125
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2138122, 2138125
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2138122, 2138125
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2138123, 2138126
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2138121, 2138124
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2138121, 2138124
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2138121, 2138124
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2138122, 2138125

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	11/21/2019			11/21/2019 17:41	Samantha Davila	2138121, 2138124
EPA 300.0	11/21/2019			11/25/2019 23:37	Julia Storbeck	2138124
	11/21/2019			11/26/2019 02:45	Julia Storbeck	2138121
EPA 350.1 Rev. 2.0	11/21/2019			11/26/2019 13:13	Ping Hua	2138125
	11/21/2019			11/27/2019 09:21	Ping Hua	2138122
EPA 351.2 Rev. 2.0	11/21/2019	11/27/2019 11:45	Sima Feizi	12/02/2019 17:59	Jhamieka S. Greenwood	2138122
	11/21/2019	11/27/2019 11:45	Sima Feizi	12/02/2019 18:12	Jhamieka S. Greenwood	2138125
EPA 353.2 Rev. 2.0	11/21/2019			11/26/2019 11:04	Beverly Y. Sanders	2138122
	11/21/2019			12/05/2019 09:39	Beverly Y. Sanders	2138125
EPA 365.1 Rev. 2.0	11/21/2019	12/03/2019 13:30	Lipi Saha	12/05/2019 21:27	Julia Storbeck	2138122
	11/21/2019	12/03/2019 13:30	Lipi Saha	12/05/2019 21:45	Julia Storbeck	2138125
EPA 365.1 Rev. 2.0 dissolved	11/21/2019			11/21/2019 13:21	Lipi Saha	2138123
	11/21/2019			11/21/2019 13:22	Lipi Saha	2138126
SM 2320 B-97	11/21/2019			11/25/2019 15:30	Dale L. Simmons	2138121
	11/21/2019			11/27/2019 12:07	Dale L. Simmons	2138124
SM 2540 D-97	11/21/2019			11/25/2019 15:56	Yijie Li	2138121, 2138124
SM 4500 F-C-97	11/21/2019			11/25/2019 10:59	Dale L. Simmons	2138121
	11/21/2019			11/27/2019 12:07	Dale L. Simmons	2138124
SM 5310 B-00	11/21/2019			11/26/2019 07:38	Lauren Lees	2138125
	11/21/2019			11/26/2019 14:38	Lauren Lees	2138122