

Chemical Analysis Report

SW-DIST-2022-05-20-02

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

Event Description: **Pinellas Continuous Monitoring**

Request ID: **RQ-2022-05-23-18**

Customer: **SW-DIST**

Project ID: **SMP**

Send Reports to:

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Date Certified: 15-JUN-2022 10:34



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: Salt Creek @ Bartlett Park Dock

Collection Date/Time: 05/19/2022 10:30

Field ID: G5SW0188

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2328810	EPA 180.1 Rev. 2.0	Turbidity	6.7		NTU	P414189	
	SM 2320 B-2011	Total Alkalinity	119		mg CaCO3/L	P414540	
	SM 2540 D-2011	TSS	18		mg/L	P414663	
	SM 4500-F- C-2011	Fluoride	1.1	J	mg F/L	P414544	LCS
2328811	EPA 350.1 Rev. 2.0	Ammonia-N	0.039		mg N/L	P414450	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P414280	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.017		mg N/L	P414430	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P414402	MS
	SM 5310 B-2011	Organic Carbon	5.8		mg C/L	P414518	
2328812	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.059		mg P/L	P414223	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

SM 4500-F- C-2011: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: FB

Collection Date/Time: 05/19/2022 10:40

Field ID: FB_05192022

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2328813	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P414189	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P414537	
	SM 2540 D-2011	TSS	2	U	mg/L	P414662	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P415141	
2328814	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P414590	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P414358	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P414438	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P414405	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P414515	
2328815	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P414222	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: 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: P414189

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414450

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414590

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414280

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414358

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414430

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414438

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414402

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414405

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P414222

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P414223

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

Reference Method: SM 2320 B-2011
Batch ID: P414537

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

Reference Method: SM 2320 B-2011
Batch ID: P414540

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

Reference Method: SM 2540 D-2011
Batch ID: P414662

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P414663

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P414544

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P415141

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P414515

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P414518

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P414189

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414450

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414590

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414280

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414358

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414430

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414438

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414402

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414405

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P414222

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P414223

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

Reference Method: SM 2320 B-2011
Batch ID: P414537

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.9		P	94 - 106

Reference Method: SM 2320 B-2011
Batch ID: P414540

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.2		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P414544

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	104		F	96 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P415141

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.2		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P414515

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.4		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P414518

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414450

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329737	Ammonia-N	98.4	97.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414590

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328163	Ammonia-N	92.8	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414280

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328966	Kjeldahl Nitrogen	91.4	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414430

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328684	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414438

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328826	NO2NO3-N	96.0	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414402

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328683	Total-P	90.0	89.4	P/F	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414405

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328767	Total-P	97.2	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P414222

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328738	O-Phosphate-P	97.3	96.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P414223

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328812	O-Phosphate-P	97.2	97.9	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P414544

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329728	Fluoride	103	104	P/P	94 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P415141

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328785	Fluoride	98.8	99.4	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P414515

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328666	Organic Carbon	96.8	95.5	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P414518

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328964	Organic Carbon	86.1	88.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P414189

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328736	Turbidity	2.65	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414450

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329737	Ammonia-N	0.892	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414590

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328163	Ammonia-N	3.97	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414280

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328966	Kjeldahl Nitrogen	7.52	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414358

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328788	Kjeldahl Nitrogen	1.89	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414430

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328684	NO2NO3-N	0.460	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414438

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328826	NO2NO3-N	0.256	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414402

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328683	Total-P	0.708	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P414405

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328767	Total-P	1.89	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P414222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328738	O-Phosphate-P	0.320	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P414223

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328812	O-Phosphate-P	0.448	Spike	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P414537

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328785	Total Alkalinity	2.07	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011

Batch ID: P414540

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329728	Total Alkalinity	0.703	Sample	P	0 - 3.8

Reference Method: SM 4500-F- C-2011

Batch ID: P414544

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329728	Fluoride	0.483	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011

Batch ID: P415141

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328785	Fluoride	0.495	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011

Batch ID: P414515

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328666	Organic Carbon	0.917	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P414518

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328964	Organic Carbon	2.15	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A112301

Included Lab Sample IDs: 2328810, 2328813

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A112327

Included Lab Sample IDs: 2328812, 2328815

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.5	P/P	90 - 110
O-Phosphate-P	99.5	98.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A112428

Included Lab Sample IDs: 2328811

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A112432

Included Lab Sample IDs: 2328814

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A112440

Included Lab Sample IDs: 2328811

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.9	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A112465

Included Lab Sample IDs: 2328811

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A112467

Included Lab Sample IDs: 2328814

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

Reference Method: SM 5310 B-2011

Run ID: A112488

Included Lab Sample IDs: 2328814

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

Reference Method: SM 5310 B-2011

Run ID: A112488

Included Lab Sample IDs: 2328814

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.0	96.5	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A112492

Included Lab Sample IDs: 2328811

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.5	93.2	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A112501

Included Lab Sample IDs: 2328810, 2328813

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	91.2	94.1	P/P	90 - 110
Total Alkalinity	94.0	95.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A112501

Included Lab Sample IDs: 2328810

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A112525

Included Lab Sample IDs: 2328811

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.7	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A112546

Included Lab Sample IDs: 2328814

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.5	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A112589

Included Lab Sample IDs: 2328814

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.7	99.9	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A112796

Included Lab Sample IDs: 2328813

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	96.5	97.6	P/P	90 - 110

Quality Assurance Report

Calibration Verification

* 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	96.8				2.65	
EPA 350.1 Rev. 2.0	Ammonia-N	98.0	98.4	97.2			0.892
	Ammonia-N	96.0	92.8	97.0			3.97
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.8	91.4	100			7.52
	Kjeldahl Nitrogen	102					1.89
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	101	101			0.460
	NO2NO3-N	100	96.0	96.5			0.256
EPA 365.1 Rev. 2.0	Total-P	99.9	90.0	89.4			0.708
	Total-P	97.8	97.2	101			1.89
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	97.3	96.8			0.320
	O-Phosphate-P	99.9	97.2	97.9			0.448
SM 2320 B-2011	Total Alkalinity	95.9				2.07	
	Total Alkalinity	95.2				0.703	
SM 4500-F- C-2011	Fluoride	104	103	104			0.483
	Fluoride	96.2	98.8	99.4			0.495
SM 5310 B-2011	Organic Carbon	95.4	96.8	95.5			0.917
	Organic Carbon	95.6	86.1	88.5			2.15

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2328810, 2328813
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2328811, 2328814
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2328811, 2328814
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2328811, 2328814
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2328811, 2328814
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2328812, 2328815
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2328810, 2328813
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2328810, 2328813
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2328810, 2328813
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2328811, 2328814

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	05/20/2022			05/20/2022 15:49	Sarah A Nixon	2328810
	05/20/2022			05/20/2022 15:52	Sarah A Nixon	2328813
EPA 350.1 Rev. 2.0	05/20/2022			05/26/2022 14:22	Ping Hua	2328811
	05/20/2022			06/01/2022 12:46	Ping Hua	2328814
EPA 351.2 Rev. 2.0	05/20/2022	05/25/2022 12:34	Samantha L Bates	05/31/2022 14:34	Alexandra J Mattheus	2328811
	05/20/2022	06/01/2022 12:22	Samantha L Bates	06/02/2022 15:03	Alexandra J Mattheus	2328814
EPA 353.2 Rev. 2.0	05/20/2022			05/25/2022 15:36	Nathaniel J Jones	2328811
	05/20/2022			05/26/2022 11:58	Beverly Y. Sanders	2328814
EPA 365.1 Rev. 2.0	05/20/2022	05/26/2022 15:35	Simonne.V. Calhoun	05/27/2022 12:51	Sarah A Nixon	2328811
	05/20/2022	05/26/2022 15:35	Simonne.V. Calhoun	05/27/2022 14:57	James L Waggeberby	2328814
EPA 365.1 Rev. 2.0 dissolved	05/20/2022			05/20/2022 18:45	Nathaniel J Jones	2328815
	05/20/2022			05/20/2022 18:59	Nathaniel J Jones	2328812
SM 2320 B-2011	05/20/2022			05/27/2022 02:27	Dale L. Simmons	2328813
	05/20/2022			05/27/2022 16:48	Dale L. Simmons	2328810
SM 2540 D-2011	05/20/2022			05/25/2022 15:29	Yijie Li	2328810, 2328813
SM 4500-F- C-2011	05/20/2022			05/27/2022 15:39	Dale L. Simmons	2328810
	05/20/2022			06/14/2022 04:59	Dale L. Simmons	2328813
SM 5310 B-2011	05/20/2022			05/28/2022 03:47	Khloe J Berg	2328814
	05/20/2022			05/28/2022 09:56	Khloe J Berg	2328811