

Chemical Analysis Report

SW-DIST-2022-12-01-02

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Run 3**
Request ID: **RQ-2022-12-05-22**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
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Certified by: Colin Wright, Program Administrator

Date Certified: 22-DEC-2022 09:10

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light pink rectangular background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical group are included in this report: Nutrients.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited 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: Mountain Lake @ Center

Collection Date/Time: 11/30/2022 10:15

Field ID: G4SW0103

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2372159	DEP SOP: NU-094-1	Color (true)	63		PCU	P422996	
	EPA 180.1 Rev. 2.0	Turbidity	4.3	A	NTU	P423008	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P423343	
		Sulfate	0.61		mg SO4/L	P423345	
	SM 2320 B-2011	Total Alkalinity	20		mg CaCO3/L	P423431	
	SM 2540 C-2015	TDS	79		mg/L	P423544	
	SM 2540 D-2015	TSS	8	I	mg/L	P423370	
	SM 4500-F- C-2011	Fluoride	0.10		mg F/L	P423723	
2372162	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P423376	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P423101	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P423143	
	EPA 365.1 Rev. 2.0	Total-P	0.055		mg P/L	P423066	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P423261	
2372165	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P423005	

Ref. Method and Comment:

SM 2540 C-2015: Batch relative percent difference is unavailable because of analytical difficulties.

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Big Gant canal @ 28344128205311

Collection Date/Time: 11/30/2022 11:40

Field ID: G4SW0116

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2372160	DEP SOP: NU-094-1	Color (true)	62		PCU	P422996	
	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P423008	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P423343	
		Sulfate	2.2		mg SO4/L	P423345	
	SM 2320 B-2011	Total Alkalinity	118		mg CaCO3/L	P423431	
	SM 2540 C-2015	TDS	174		mg/L	P423544	
	SM 2540 D-2015	TSS	4	I	mg/L	P423370	
	SM 4500-F- C-2011	Fluoride	0.11		mg F/L	P423723	
2372163	EPA 350.1 Rev. 2.0	Ammonia-N	0.054		mg N/L	P423376	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.87		mg N/L	P423101	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P423143	
	EPA 365.1 Rev. 2.0	Total-P	0.059		mg P/L	P423066	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P423261	
2372166	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.015		mg P/L	P423005	

Ref. Method and Comment:

SM 2540 C-2015: Batch relative percent difference is unavailable because of analytical difficulties.

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: FB

Collection Date/Time: 11/30/2022 11:45

Field ID: FB_11302022

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2372161	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P422996	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P423008	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P423343	
		Sulfate	0.20	U	mg SO4/L	P423345	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P423495	
	SM 2540 C-2015	TDS	15	U	mg/L	P423544	
	SM 2540 D-2015	TSS	2	U	mg/L	P423370	
	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P423499	
2372164	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P423376	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P423101	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P423143	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P423066	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P423261	
2372167	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P423005	

Ref. Method and Comment:

SM 2540 C-2015: Batch relative percent difference is unavailable because of analytical difficulties.

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P422996

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P423008

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P423343

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P423345

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423376

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P423101

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P423143

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P423066

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P423005

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P423431

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

Reference Method: SM 2320 B-2011
Batch ID: P423495

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

Reference Method: SM 2540 C-2015
Batch ID: P423544

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P423370

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P423499

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P423723

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P423261

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P422996

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	104		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P423008

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P423343

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P423345

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423376

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P423101

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: P423143

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	103		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P423066

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P423005

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P423431

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.4		P	94 - 106

Reference Method: SM 2320 B-2011
Batch ID: P423495

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.3		P	94 - 106

Reference Method: SM 2540 C-2015
Batch ID: P423544

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	92.4		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P423370

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	91.5		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P423499

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	96 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P423723

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P423261

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P423343

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372194	Chloride	99.7		P	90 - 110
2372326	Chloride	99.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P423345

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372194	Sulfate	97.2		P	90 - 110
2372326	Sulfate	98.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423376

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372138	Ammonia-N	97.0	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P423101

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372094	Kjeldahl Nitrogen	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P423143

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372162	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P423066

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372138	Total-P	104	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P423005

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372139	O-Phosphate-P	101	103	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P423499

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372822	Fluoride	103	102	P/P	94 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P423723

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2374318	Fluoride	100	98.6	P/P	94 - 104

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P423261

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372162	Organic Carbon	97.6	97.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P422996

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372137	Color (true)	1.82	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P423008

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372159	Turbidity	4.16	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P423343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372194	Chloride	0.347	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P423345

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372194	Sulfate	0.544	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423376

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372138	Ammonia-N	1.44	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P423101

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372094	Kjeldahl Nitrogen	0.0381	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P423143

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372162	NO2NO3-N	0.489	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P423066

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372138	Total-P	2.03	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P423005

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372139	O-Phosphate-P	2.05	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P423431

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372137	Total Alkalinity	1.23	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011
Batch ID: P423495

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372822	Total Alkalinity	0.164	Sample	P	0 - 3.8

Reference Method: SM 4500-F- C-2011
Batch ID: P423499

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372822	Fluoride	0.509	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011
Batch ID: P423723

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2374318	Fluoride	0.966	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P423261

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372162	Organic Carbon	0.143	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A116210

Included Lab Sample IDs: 2372159, 2372160, 2372161

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	104	103	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A116214

Included Lab Sample IDs: 2372159, 2372160, 2372161

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A116239

Included Lab Sample IDs: 2372165, 2372166, 2372167

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.7	99.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A116272

Included Lab Sample IDs: 2372159, 2372160, 2372161

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.2	102	P/P	90 - 110
Sulfate	99.4	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A116275

Included Lab Sample IDs: 2372162, 2372163

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A116276

Included Lab Sample IDs: 2372162, 2372163, 2372164

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A116279

Included Lab Sample IDs: 2372164

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A116289

Included Lab Sample IDs: 2372162, 2372163, 2372164

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A116322

Included Lab Sample IDs: 2372162, 2372163, 2372164

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.2	98.2	P/P	90 - 110
Organic Carbon	97.4	97.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A116358

Included Lab Sample IDs: 2372162, 2372163, 2372164

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.8	97.7	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A116396

Included Lab Sample IDs: 2372159, 2372160

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	91.7	97.1	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A116421

Included Lab Sample IDs: 2372161

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	94.8	95.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A116421

Included Lab Sample IDs: 2372161

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

Reference Method: SM 4500-F- C-2011

Run ID: A116543

Included Lab Sample IDs: 2372159, 2372160

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	103	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		Precision	
					LCS	MS
DEP SOP: NU-094-1	Color (true)	104			1.82	
EPA 180.1 Rev. 2.0	Turbidity	100			4.16	
EPA 300.0 Rev. 2.1	Chloride	98.6	99.7	99.9	0.347	
	Sulfate	98.1	97.2	98.9	0.544	
EPA 350.1 Rev. 2.0	Ammonia-N	95.0	97.0	98.6		1.44
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	102	102		0.0381
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	103	102	102		0.489
EPA 365.1 Rev. 2.0	Total-P	107	104	106		2.03
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	101	103		2.05
SM 2320 B-2011	Total Alkalinity	96.4			1.23	
	Total Alkalinity	97.3			0.164	
SM 2540 C-2015	TDS	92.4				
SM 2540 D-2015	TSS	91.5				
SM 4500-F- C-2011	Fluoride	102	103	102		0.509
	Fluoride	102	100	98.6		0.966
SM 5310 B-2011	Organic Carbon	94.0	97.6	97.9		0.143

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2372159, 2372160, 2372161
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2372159, 2372160, 2372161
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2372159, 2372160, 2372161
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2372159, 2372160, 2372161
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2372162, 2372163, 2372164
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2372162, 2372163, 2372164
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2372162, 2372163, 2372164
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2372162, 2372163, 2372164
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2372165, 2372166, 2372167
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2372159, 2372160, 2372161
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2372159, 2372160, 2372161
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2372159, 2372160, 2372161
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2372159, 2372160, 2372161
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2372162, 2372163, 2372164

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	12/01/2022			12/01/2022 14:35	Chandler E Cox	2372159
	12/01/2022			12/01/2022 14:36	Chandler E Cox	2372160, 2372161
	12/01/2022			12/01/2022 13:20	Khloe J Berg	2372159
EPA 180.1 Rev. 2.0	12/01/2022			12/01/2022 13:22	Khloe J Berg	2372160
	12/01/2022			12/01/2022 13:23	Khloe J Berg	2372161
	12/01/2022			12/08/2022 18:33	Anna M. Plaviak	2372159
EPA 300.0 Rev. 2.1	12/01/2022			12/08/2022 18:48	Anna M. Plaviak	2372160
	12/01/2022			12/08/2022 19:03	Anna M. Plaviak	2372161
	12/01/2022			12/09/2022 12:12	Ping Hua	2372162
EPA 350.1 Rev. 2.0	12/01/2022			12/09/2022 12:14	Ping Hua	2372163
	12/01/2022			12/09/2022 12:15	Ping Hua	2372164
	12/01/2022	12/05/2022 13:31	Judith K. Clark	12/06/2022 14:29	Samantha L Bates	2372162
EPA 351.2 Rev. 2.0	12/01/2022	12/05/2022 13:31	Judith K. Clark	12/06/2022 14:31	Samantha L Bates	2372163
	12/01/2022	12/05/2022 13:31	Judith K. Clark	12/06/2022 14:32	Samantha L Bates	2372164
	12/01/2022			12/06/2022 09:56	Beverly Y. Sanders	2372162
EPA 353.2 Rev. 2.0	12/01/2022			12/06/2022 10:05	Beverly Y. Sanders	2372163
	12/01/2022			12/06/2022 10:07	Beverly Y. Sanders	2372164
	12/01/2022	12/05/2022 14:16	Adam P Silver	12/06/2022 09:23	James L Waggeberby	2372162
EPA 365.1 Rev. 2.0	12/01/2022	12/05/2022 14:16	Adam P Silver	12/06/2022 09:24	James L Waggeberby	2372163
	12/01/2022	12/05/2022 14:16	Adam P Silver	12/06/2022 12:24	James L Waggeberby	2372164
EPA 365.1 Rev. 2.0 dissolved	12/01/2022			12/01/2022 15:17	Elise M. Gillis	2372165
	12/01/2022			12/01/2022 15:18	Elise M. Gillis	2372166
	12/01/2022			12/01/2022 15:19	Elise M. Gillis	2372167
SM 2320 B-2011	12/01/2022			12/13/2022 04:42	Dale L. Simmons	2372159
	12/01/2022			12/13/2022 04:53	Dale L. Simmons	2372160
	12/01/2022			12/13/2022 20:49	Dale L. Simmons	2372161
SM 2540 C-2015	12/01/2022			12/05/2022 16:21	Yijie Li	2372159, 2372160, 2372161
SM 2540 D-2015	12/01/2022			12/05/2022 16:21	Yijie Li	2372159, 2372160, 2372161
SM 4500-F- C-2011	12/01/2022			12/13/2022 20:49	Dale L. Simmons	2372161
	12/01/2022			12/17/2022 13:27	Dale L. Simmons	2372159
	12/01/2022			12/17/2022 13:32	Dale L. Simmons	2372160
SM 5310 B-2011	12/01/2022			12/07/2022 15:24	Elise M. Gillis	2372162
	12/01/2022			12/07/2022 17:06	Elise M. Gillis	2372163
	12/01/2022			12/07/2022 20:06	Elise M. Gillis	2372164