

Chemical Analysis Report

SW-DIST-2023-02-22-01

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

Event Description: **Run 14**
Request ID: **RQ-2023-02-20-35**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 20-MAR-2023 19:11



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: Miller Mac Rd Ditch at US 41 N of Di Mere Packing

Collection Date/Time: 02/21/2023 09:40

Field ID: G1SW0138

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2389449	DEP SOP: NU-094-1	Color (true)	57		PCU	P426247	
	EPA 180.1 Rev. 2.0	Turbidity	3.0	A	NTU	P426263	
	EPA 300.0 Rev. 2.1	Chloride	37		mg Cl/L	P426698	
	SM 2320 B-2011	Total Alkalinity	62		mg CaCO3/L	P426593	
	SM 2540 C-2015	TDS	269		mg/L	P426801	
	SM 2540 D-2015	TSS	4	I	mg/L	P426740	
	SM 4500-F- C-2011	Fluoride	0.10		mg F/L	P426597	
2389451	EPA 350.1 Rev. 2.0	Ammonia-N	0.026		mg N/L	P426465	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P427106	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P426528	
	EPA 365.1 Rev. 2.0	Total-P	0.049		mg P/L	P426628	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P426711	
2389453	EPA 300.0 Rev. 2.1 dissolved	Sulfate	88		mg SO4/L	P427043	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.030		mg P/L	P426258	

Ref. Method and Comment:

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: 02/21/2023 09:50

Field ID: FB_02212023

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2389450	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P426247	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P426263	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P426698	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P426593	
	SM 2540 C-2015	TDS	15	U	mg/L	P426801	
	SM 2540 D-2015	TSS	2	U	mg/L	P426740	
	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P426597	
2389452	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P426465	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P426717	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P426528	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P426992	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P426711	
2389454	EPA 300.0 Rev. 2.1 dissolved	Sulfate	0.20	U	mg SO4/L	P426875	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P426258	

Ref. Method and Comment:

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: P426247

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P426263

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426698

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1 dissolved
Batch ID: P426875

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1 dissolved
Batch ID: P427043

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426465

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426717

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427106

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426528

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426628

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426992

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426258

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

Reference Method: SM 2320 B-2011
Batch ID: P426593

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

Reference Method: SM 2540 C-2015
Batch ID: P426801

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P426740

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P426597

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P426711

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: P426247

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.7		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P426263

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426698

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1 dissolved
Batch ID: P426875

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

Reference Method: EPA 300.0 Rev. 2.1 dissolved
Batch ID: P427043

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426465

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426717

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427106

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426528

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	94.5		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426628

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426992

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426258

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.1		P	90 - 110

Reference Method: SM 2320 B-2011
Batch ID: P426593

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.5		P	94 - 106

Reference Method: SM 2540 C-2015
Batch ID: P426801

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	94.2		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P426740

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	93.3		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P426597

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P426711

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.7		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P426698

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389551	Chloride	97.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1 dissolved

Batch ID: P426875

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389014	Sulfate	99.5		P	90 - 110
2390051	Sulfate	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1 dissolved

Batch ID: P427043

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2391337	Sulfate	96.1		P	90 - 110
2391346	Sulfate	98.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P426465

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389420	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P426717

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389482	Kjeldahl Nitrogen	106	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P427106

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389381	Kjeldahl Nitrogen	105	95.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P426528

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389438	NO2NO3-N	95.0	95.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P426628

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2390384	Total-P	98.4	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P426992

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389565	Total-P	101	99.7	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426258

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389453	O-Phosphate-P	97.6	98.2	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P426597

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389558	Fluoride	98.8	98.2	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P426711

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389482	Organic Carbon	96.4	95.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P426247

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389382	Color (true)	1.66	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P426263

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389449	Turbidity	7.76	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426698

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389551	Chloride	0.488	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1 dissolved
Batch ID: P426875

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389014	Sulfate	2.75	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1 dissolved
Batch ID: P427043

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2391337	Sulfate	1.01	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426465

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389420	Ammonia-N	0.737	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426717

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389482	Kjeldahl Nitrogen	3.06	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427106

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389381	Kjeldahl Nitrogen	7.45	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426528

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389438	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426628

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2390384	Total-P	0.851	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426992

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389565	Total-P	1.69	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426258

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389453	O-Phosphate-P	0.471	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P426593

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389558	Total Alkalinity	1.04	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015
Batch ID: P426801

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389380	TDS	4.49	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P426597

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389558	Fluoride	0.482	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P426711

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389482	Organic Carbon	0.319	Spike	P	0 - 20

Quality Assurance Report Precision

* 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: A117601

Included Lab Sample IDs: 2389449, 2389450

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A117608

Included Lab Sample IDs: 2389453, 2389454

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.9	98.3	P/P	90 - 110
O-Phosphate-P	98.0	97.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A117609

Included Lab Sample IDs: 2389449, 2389450

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A117687

Included Lab Sample IDs: 2389449, 2389450

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	96.6	96.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A117699

Included Lab Sample IDs: 2389451, 2389452

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A117732

Included Lab Sample IDs: 2389451, 2389452

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	95.5	93.0	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A117758

Included Lab Sample IDs: 2389449, 2389450

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.8	96.4	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A117758

Included Lab Sample IDs: 2389449, 2389450

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A117812

Included Lab Sample IDs: 2389451, 2389452

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.2	96.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A117829

Included Lab Sample IDs: 2389451

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	98.8	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1 dissolved

Run ID: A117833

Included Lab Sample IDs: 2389453, 2389454

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	100	98.7	P/P	90 - 110
Sulfate	102	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A117881

Included Lab Sample IDs: 2389452

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.8	92.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A117983

Included Lab Sample IDs: 2389452

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A118044

Included Lab Sample IDs: 2389451

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	96.2	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)	99.7			1.66	
EPA 180.1 Rev. 2.0	Turbidity	101			7.76	
EPA 300.0 Rev. 2.1	Chloride	97.0	97.2		0.488	
EPA 300.0 Rev. 2.1 dissolved	Sulfate	107	99.5	105	2.75	
	Sulfate	101	96.1	98.6	1.01	
EPA 350.1 Rev. 2.0	Ammonia-N	98.6	101	102		0.737
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.0	106	100		3.06
	Kjeldahl Nitrogen	98.0	105	95.1		7.45
EPA 353.2 Rev. 2.0	NO2NO3-N	94.5	95.0	95.0		0.0
EPA 365.1 Rev. 2.0	Total-P	99.5	98.4	99.3		0.851
	Total-P	98.6	101	99.7		1.69
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.1	97.6	98.2		0.471
SM 2320 B-2011	Total Alkalinity	97.5			1.04	
SM 2540 C-2015	TDS	94.2			4.49	
SM 2540 D-2015	TSS	93.3				
SM 4500-F- C-2011	Fluoride	100	98.8	98.2		0.482
SM 5310 B-2011	Organic Carbon	95.7	96.4	95.8		0.319

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2389449, 2389450
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2389449, 2389450
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2389449, 2389450
EPA 300.0 Rev. 2.1 dissolved	Sulfate, dissolved, in filtered, aqueous matrices	2389453, 2389454
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2389451, 2389452
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2389451, 2389452
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2389451, 2389452
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2389451, 2389452
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2389453, 2389454
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2389449, 2389450
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2389449, 2389450
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2389449, 2389450
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2389449, 2389450
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2389451, 2389452

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	02/22/2023			02/22/2023 14:04	Alexis Price	2389449
	02/22/2023			02/22/2023 14:05	Alexis Price	2389450
EPA 180.1 Rev. 2.0	02/22/2023			02/22/2023 14:10	Anna M. Plaviak	2389450
	02/22/2023			02/22/2023 14:12	Anna M. Plaviak	2389449
EPA 300.0 Rev. 2.1	02/22/2023			03/04/2023 09:09	Judith K. Clark	2389449
	02/22/2023			03/04/2023 09:24	Judith K. Clark	2389450
EPA 300.0 Rev. 2.1 dissolved	02/22/2023			03/08/2023 13:47	Judith K. Clark	2389454
	02/22/2023			03/10/2023 14:16	Judith K. Clark	2389453
EPA 350.1 Rev. 2.0	02/22/2023			02/28/2023 11:30	Khloe J Berg	2389451
	02/22/2023			02/28/2023 11:31	Khloe J Berg	2389452
EPA 351.2 Rev. 2.0	02/22/2023	03/07/2023 09:18	Simonne.V. Calhoun	03/08/2023 16:02	Judith K. Clark	2389452
	02/22/2023	03/14/2023 10:34	Simonne.V. Calhoun	03/16/2023 14:18	Judith K. Clark	2389451
EPA 353.2 Rev. 2.0	02/22/2023			02/28/2023 09:31	Beverly Y. Sanders	2389451
	02/22/2023			02/28/2023 09:32	Beverly Y. Sanders	2389452
EPA 365.1 Rev. 2.0	02/22/2023	03/02/2023 15:47	Adam P Silver	03/06/2023 15:40	James L Waggeberby	2389451
	02/22/2023	03/10/2023 13:50	Adam P Silver	03/14/2023 13:28	James L Waggeberby	2389452
EPA 365.1 Rev. 2.0 dissolved	02/22/2023			02/22/2023 15:09	James L Waggeberby	2389453
	02/22/2023			02/22/2023 15:20	James L Waggeberby	2389454
SM 2320 B-2011	02/22/2023			03/01/2023 18:58	Dale L. Simmons	2389449
	02/22/2023			03/01/2023 19:06	Dale L. Simmons	2389450
SM 2540 C-2015	02/22/2023			02/27/2023 16:17	Yijie Li	2389449, 2389450
SM 2540 D-2015	02/22/2023			02/27/2023 16:17	Yijie Li	2389449, 2389450
SM 4500-F- C-2011	02/22/2023			03/01/2023 18:58	Dale L. Simmons	2389449
	02/22/2023			03/01/2023 19:06	Dale L. Simmons	2389450
SM 5310 B-2011	02/22/2023			03/04/2023 06:23	Khloe J Berg	2389451
	02/22/2023			03/04/2023 06:37	Khloe J Berg	2389452