

Chemical Analysis Report

SE-DIST-2022-01-26-01

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

Event Description: **Yeehaw Junction**
Request ID: **RQ-2022-01-24-32**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
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Date Certified: 16-FEB-2022 09:38



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: Blue Cypress Creek

Collection Date/Time: 01/25/2022 11:00

Field ID: G3SE0048

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2301790	DEP SOP: NU-094-1	Color (true)**	140		PCU	P409005	
	EPA 180.1 Rev. 2.0	Turbidity	0.80		NTU	P409009	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P409417	
		Sulfate	3.2		mg SO4/L	P409420	
	SM 2320 B-2011	Total Alkalinity	74		mg CaCO3/L	P409143	
	SM 2540 C-2011	TDS	147		mg/L	P409502	
	SM 2540 D-2011	TSS	2	U	mg/L	P409494	
2301792	SM 4500 F-C-2011	Fluoride	0.078	I	mg F/L	P409146	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P409471	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P409191	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P409208	
	EPA 365.1 Rev. 2.0	Total-P	0.098		mg P/L	P409035	
2301794	SM 5310 B-2011	Organic Carbon	18		mg C/L	P409765	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.079		mg P/L	P409001	

Ref. Method and Comment:

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

Sample Location: Padgett Branch @ 441

Collection Date/Time: 01/25/2022 11:45

Field ID: G3SE0026

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2301791	DEP SOP: NU-094-1	Color (true)**	330		PCU	P409005	
	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P409009	
	EPA 300.0 Rev. 2.1	Chloride	23		mg Cl/L	P409417	
		Sulfate	1.1		mg SO4/L	P409420	
	SM 2320 B-2011	Total Alkalinity	8.9		mg CaCO3/L	P409143	
	SM 2540 C-2011	TDS	129		mg/L	P409502	
	SM 2540 D-2011	TSS	12		mg/L	P409494	
2301793	SM 4500 F-C-2011	Fluoride	0.043	I	mg F/L	P409146	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.022		mg N/L	P409471	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P409191	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P409208	
	EPA 365.1 Rev. 2.0	Total-P	0.054		mg P/L	P409036	
2301795	SM 5310 B-2011	Organic Carbon	32		mg C/L	P409765	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.027		mg P/L	P409002	

Ref. Method and Comment:

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

Sample Location: Fort Drum Marsh Conservation Area Northeast Entrance **Collection Date/Time: 01/25/2022 12:15**

Field ID: G3SE0052

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2301796	DEP SOP: NU-094-1	Color (true)**	170		PCU	P409005	
	EPA 180.1 Rev. 2.0	Turbidity	0.65		NTU	P409009	
	EPA 300.0 Rev. 2.1	Chloride	26		mg Cl/L	P409417	
		Sulfate	0.67		mg SO4/L	P409420	
	SM 2320 B-2011	Total Alkalinity	21		mg CaCO3/L	P409143	
	SM 2540 C-2011	TDS	124		mg/L	P409502	
	SM 2540 D-2011	TSS	2	U	mg/L	P409494	
	SM 4500 F-C-2011	Fluoride	0.082	I	mg F/L	P409146	
2301797	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P409471	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P409231	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P409209	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P409036	
	SM 5310 B-2011	Organic Carbon	29		mg C/L	P409765	
2301798	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P409002	

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: DEP SOP: NU-094-1
Batch ID: P409005

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P409009

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409417

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409420

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409471

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409191

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409231

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409208

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409209

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: P409035

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P409036

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409001

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409002

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

Reference Method: SM 2320 B-2011
Batch ID: P409143

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

Reference Method: SM 2540 C-2011
Batch ID: P409502

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P409494

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P409146

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P409765

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: P409005

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.9		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409417

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409420

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409471

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409191

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409231

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409208

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: P409209

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: P409035

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P409036

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409001

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409002

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

Reference Method: SM 2320 B-2011
Batch ID: P409143

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.1		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P409146

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.9		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P409765

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409417

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2301653	Chloride	95.0		P	90 - 110
2301742	Chloride	98.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409420

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2301653	Sulfate	93.2		P	90 - 110
2301742	Sulfate	96.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409471

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2301761	Ammonia-N	96.8	98.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409191

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2301639	Kjeldahl Nitrogen	102	111	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409208

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2301761	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409209

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2301823	NO2NO3-N	95.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P409035

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2301762	Total-P	102	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P409036

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2301822	Total-P	106	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409001

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2301741	O-Phosphate-P	100	102	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409002

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2301827	O-Phosphate-P	96.1	98.1	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P409146

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2301760	Fluoride	98.6	99.2	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P409765

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2301745	Organic Carbon	93.0	92.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P409005

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2301760	Color (true)	4.31	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P409009

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2301818	Turbidity	3.33	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2301653	Chloride	0.275	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P409420

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2301653	Sulfate	0.673	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409471

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2301761	Ammonia-N	1.44	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409191

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2301639	Kjeldahl Nitrogen	5.08	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409231

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2301822	Kjeldahl Nitrogen	1.05	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409208

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2301761	NO2NO3-N	0.451	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409209

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2301823	NO2NO3-N	0.432	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P409035

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2301762	Total-P	1.93	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P409036

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2301822	Total-P	0.518	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409001

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2301741	O-Phosphate-P	1.87	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2301827	O-Phosphate-P	1.87	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P409143

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2301760	Total Alkalinity	0.620	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P409502

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2301760	TDS	3.30	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P409146

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2301760	Fluoride	0.480	Spike	P	0 - 2.1

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P409765

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2301745	Organic Carbon	0.802	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: A110055

Included Lab Sample IDs: 2301794, 2301795, 2301798

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

Reference Method: DEP SOP: NU-094-1

Run ID: A110056

Included Lab Sample IDs: 2301790, 2301791, 2301796

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	85 - 115
Color (true)	101	101	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A110058

Included Lab Sample IDs: 2301790, 2301791, 2301796

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A110098

Included Lab Sample IDs: 2301792, 2301793, 2301797

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

Reference Method: SM 2320 B-2011

Run ID: A110099

Included Lab Sample IDs: 2301790, 2301791, 2301796

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.9	99.8	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A110099

Included Lab Sample IDs: 2301790, 2301791, 2301796

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A110125

Included Lab Sample IDs: 2301792, 2301793, 2301797

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A110154

Included Lab Sample IDs: 2301790, 2301791, 2301796

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	99.4	P/P	90 - 110
Sulfate	99.8	99.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A110188

Included Lab Sample IDs: 2301792, 2301793

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.0	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A110218

Included Lab Sample IDs: 2301797

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.5	93.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A110252

Included Lab Sample IDs: 2301792, 2301793, 2301797

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.5	94.8	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A110374

Included Lab Sample IDs: 2301792, 2301793, 2301797

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	96.1	P/P	90 - 110
Organic Carbon	96.1	97.8	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
DEP SOP: NU-094-1	Color (true)	98.9				4.31	
EPA 180.1 Rev. 2.0	Turbidity					3.33	
EPA 300.0 Rev. 2.1	Chloride	101	95.0	98.6		0.275	
	Sulfate	96.8	93.2	96.3		0.673	
EPA 350.1 Rev. 2.0	Ammonia-N	100	96.8	98.4			1.44
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.5	102	111			5.08
	Kjeldahl Nitrogen	98.2					1.05
EPA 353.2 Rev. 2.0	NO2NO3-N	100	102	101			0.451
	NO2NO3-N	100	95.5				0.432
EPA 365.1 Rev. 2.0	Total-P	105	102	104			1.93
	Total-P	102	106	106			0.518
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	100	102			1.87
	O-Phosphate-P	100	96.1	98.1			1.87
SM 2320 B-2011	Total Alkalinity	98.1				0.620	
SM 2540 C-2011	TDS					3.30	
SM 4500 F-C-2011	Fluoride	97.9	98.6	99.2			0.480
SM 5310 B-2011	Organic Carbon	95.0	93.0	92.2			0.802

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2301790, 2301791, 2301796
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2301790, 2301791, 2301796
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2301790, 2301791, 2301796
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2301790, 2301791, 2301796
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2301792, 2301793, 2301797
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2301792, 2301793, 2301797
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2301792, 2301793, 2301797
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2301792, 2301793, 2301797
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2301794, 2301795, 2301798
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2301790, 2301791, 2301796
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2301790, 2301791, 2301796
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2301790, 2301791, 2301796
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2301790, 2301791, 2301796
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2301792, 2301793, 2301797

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	01/26/2022			01/26/2022 15:45	Samantha L Bates	2301790
	01/26/2022			01/26/2022 15:53	Samantha L Bates	2301791
	01/26/2022			01/26/2022 15:55	Samantha L Bates	2301796
EPA 180.1 Rev. 2.0	01/26/2022			01/26/2022 14:59	Khloe J Berg	2301790, 2301791, 2301796
EPA 300.0 Rev. 2.1	01/26/2022			02/03/2022 18:20	James L Waggeberby	2301790
	01/26/2022			02/03/2022 18:32	James L Waggeberby	2301791
	01/26/2022			02/03/2022 18:44	James L Waggeberby	2301796
EPA 350.1 Rev. 2.0	01/26/2022			02/04/2022 14:23	Ping Hua	2301792
	01/26/2022			02/04/2022 14:24	Ping Hua	2301793
	01/26/2022			02/04/2022 14:26	Ping Hua	2301797
EPA 351.2 Rev. 2.0	01/26/2022	02/01/2022 09:14	Samantha L Bates	02/02/2022 14:50	Alexandra J Mattheus	2301792
	01/26/2022	02/01/2022 09:14	Samantha L Bates	02/02/2022 14:52	Alexandra J Mattheus	2301793
	01/26/2022	02/02/2022 09:46	Samantha L Bates	02/03/2022 14:36	Alexandra J Mattheus	2301797
EPA 353.2 Rev. 2.0	01/26/2022			01/31/2022 10:15	Beverly Y. Sanders	2301792
	01/26/2022			01/31/2022 10:16	Beverly Y. Sanders	2301793
	01/26/2022			01/31/2022 10:32	Beverly Y. Sanders	2301797
EPA 365.1 Rev. 2.0	01/26/2022	01/27/2022 17:15	Simonne.V. Calhoun	01/28/2022 12:43	Shengyu Ding	2301792
	01/26/2022	01/27/2022 17:15	Simonne.V. Calhoun	01/28/2022 12:49	Shengyu Ding	2301793
	01/26/2022	01/27/2022 17:15	Simonne.V. Calhoun	01/28/2022 12:50	Shengyu Ding	2301797
EPA 365.1 Rev. 2.0 dissolved	01/26/2022			01/26/2022 14:48	James L Waggeberby	2301794
	01/26/2022			01/26/2022 14:58	James L Waggeberby	2301795
	01/26/2022			01/26/2022 14:59	James L Waggeberby	2301798
SM 2320 B-2011	01/26/2022			01/27/2022 23:25	Dale L. Simmons	2301790
	01/26/2022			01/27/2022 23:36	Dale L. Simmons	2301791
	01/26/2022			01/27/2022 23:49	Dale L. Simmons	2301796
SM 2540 C-2011	01/26/2022			01/28/2022 14:02	Yijie Li	2301790, 2301791, 2301796
SM 2540 D-2011	01/26/2022			01/28/2022 14:02	Yijie Li	2301790, 2301791, 2301796
SM 4500 F-C-2011	01/26/2022			01/27/2022 23:25	Dale L. Simmons	2301790
	01/26/2022			01/27/2022 23:36	Dale L. Simmons	2301791
	01/26/2022			01/27/2022 23:49	Dale L. Simmons	2301796
SM 5310 B-2011	01/26/2022			02/13/2022 03:16	Touraj Touran	2301792
	01/26/2022			02/13/2022 03:34	Touraj Touran	2301793
	01/26/2022			02/13/2022 04:34	Touraj Touran	2301797