

Chemical Analysis Report

SO-DIST-2021-05-21-01

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

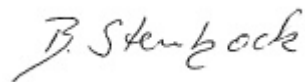
Event Description: **Caloosa Creeks**
Request ID: **RQ-2021-05-17-65**
Customer: **SO-DIST**
Project ID: **BMAP**

Send Reports to:
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FLDEP South District Office
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Date Certified: 11-JUN-2021 18:26



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: Telegraph Creek @ USGS

Collection Date/Time: 05/20/2021 09:10

Field ID: G3SD0129

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2249128	SM 2120 B-2011	Color (true)	43		PCU	P398619	
	SM 2320 B-2011	Total Alkalinity	256		mg CaCO3/L	P398904	
	SM 2540 D-2011	TSS	4	I	mg/L	P398843	
	SM 4500 F-C-2011	Fluoride	0.16		mg F/L	P398906	
2249132	SM 5310 B-2011 dissolved	Organic Carbon	14		mg C/L	P398924	
2249136	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P399167	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.88		mg N/L	P398718	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P398655	
	EPA 365.1 Rev. 2.0	Total-P	0.054		mg P/L	P398797	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P398924	
2249140	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.024		mg P/L	P398701	

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: Nine Mile Canal @ SR 80

Collection Date/Time: 05/20/2021 11:55

Field ID: G3SD0088

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2249129	SM 2120 B-2011	Color (true)	52		PCU	P398619	
	SM 2320 B-2011	Total Alkalinity	107		mg CaCO3/L	P398904	
	SM 2540 D-2011	TSS	28		mg/L	P398843	
	SM 4500 F-C-2011	Fluoride	0.17		mg F/L	P398906	
2249133	SM 5310 B-2011 dissolved	Organic Carbon	15		mg C/L	P398924	
2249137	EPA 350.1 Rev. 2.0	Ammonia-N	0.056		mg N/L	P399167	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	3.2		mg N/L	P398718	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.084		mg N/L	P398655	
	EPA 365.1 Rev. 2.0	Total-P	0.32		mg P/L	P398797	
	SM 5310 B-2011	Organic Carbon	17		mg C/L	P398924	
2249141	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.010		mg P/L	P398701	

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: Roberts Canal @ SR 80

Collection Date/Time: 05/20/2021 12:40

Field ID: G3SD0146

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2249130	SM 2120 B-2011	Color (true)	51		PCU	P398619	
	SM 2320 B-2011	Total Alkalinity	207		mg CaCO3/L	P398904	
	SM 2540 D-2011	TSS	28		mg/L	P398843	
	SM 4500 F-C-2011	Fluoride	0.36		mg F/L	P398906	
2249134	SM 5310 B-2011 dissolved	Organic Carbon	14		mg C/L	P398924	
2249138	EPA 350.1 Rev. 2.0	Ammonia-N	0.045		mg N/L	P399167	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P398718	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.024		mg N/L	P398655	
	EPA 365.1 Rev. 2.0	Total-P	0.064		mg P/L	P398798	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P398924	
2249142	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.013		mg P/L	P398701	

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: Orange River @BoatRamp

Collection Date/Time: 05/20/2021 13:20

Field ID: G3SD0128

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2249131	SM 2120 B-2011	Color (true)	42		PCU	P398619	
	SM 2320 B-2011	Total Alkalinity	144		mg CaCO3/L	P398904	
	SM 2540 D-2011	TSS	13		mg/L	P398843	
	SM 4500 F-C-2011	Fluoride	0.18		mg F/L	P398906	
2249135	SM 5310 B-2011 dissolved	Organic Carbon	12		mg C/L	P398925	
2249139	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P399167	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P398718	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P398655	
	EPA 365.1 Rev. 2.0	Total-P	0.080		mg P/L	P398798	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P398925	
2249143	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P398701	

Ref. Method and Comment:

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399167

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P398718

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P398655

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398797

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398798

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P398701

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

Reference Method: SM 2120 B-2011
Batch ID: P398619

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P398904

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

Reference Method: SM 2540 D-2011
Batch ID: P398843

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P398906

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P398924

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

Reference Method: SM 5310 B-2011
Batch ID: P398925

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

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P398924

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

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P398925

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399167

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: P398718

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	94.6		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P398655

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398797

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398798

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P398701

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

Reference Method: SM 2120 B-2011
Batch ID: P398619

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.4		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P398904

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.6		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P398906

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.8		P	93 - 104

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P398924

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

Reference Method: SM 5310 B-2011
Batch ID: P398925

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

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P398924

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

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P398925

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399167

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248924	Ammonia-N	91.4	95.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P398718

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2249136	Kjeldahl Nitrogen	101	99.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P398655

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2249124	NO2NO3-N	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398797

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248976	Total-P	107	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398798

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2249138	Total-P	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P398701

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2249141	O-Phosphate-P	96.1	97.1	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P398906

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2249042	Fluoride	98.6	97.4	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P398924

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2249098	Organic Carbon	95.9	95.9	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P398925

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2249292	Organic Carbon	94.2	93.5	P/P	85 - 115

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P398924

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2249098	Organic Carbon	95.9	95.9	P/P	85 - 115

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P398925

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2249292	Organic Carbon	94.2	93.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248924	Ammonia-N	3.64	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P398718

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2249136	Kjeldahl Nitrogen	0.965	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P398655

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2249124	NO2NO3-N	0.496	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398797

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248976	Total-P	0.683	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398798

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2249138	Total-P	0.0416	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P398701

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2249141	O-Phosphate-P	0.935	Spike	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P398619

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2249095	Color (true)	1.75	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P398904

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2249042	Total Alkalinity	1.13	Sample	P	0 - 5.2

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P398906

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2249042	Fluoride	0.921	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P398924

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2249098	Organic Carbon	0.0	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P398925

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2249292	Organic Carbon	0.502	Spike	P	0 - 20

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P398924

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2249098	Organic Carbon	0.0	Spike	P	0 - 20

Reference Method: SM 5310 B-2011 dissolved
Batch ID: P398925

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2249292	Organic Carbon	0.502	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B-2011

Run ID: A105603

Included Lab Sample IDs: 2249128, 2249129, 2249130, 2249131

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.1	98.7	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A105611

Included Lab Sample IDs: 2249136, 2249137, 2249138, 2249139

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A105633

Included Lab Sample IDs: 2249140, 2249141, 2249142, 2249143

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

Reference Method: SM 2320 B-2011

Run ID: A105721

Included Lab Sample IDs: 2249128, 2249129, 2249130, 2249131

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	98.2	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A105721

Included Lab Sample IDs: 2249128, 2249129, 2249130, 2249131

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	101	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A105730

Included Lab Sample IDs: 2249136, 2249137, 2249138, 2249139

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.0	98.8	P/P	90 - 110
Organic Carbon	98.2	98.0	P/P	90 - 110

Reference Method: SM 5310 B-2011 dissolved

Run ID: A105730

Included Lab Sample IDs: 2249132, 2249133, 2249134, 2249135

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.0	98.8	P/P	90 - 110
Organic Carbon	98.2	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A105734

Included Lab Sample IDs: 2249137, 2249138, 2249139

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A105734

Included Lab Sample IDs: 2249137, 2249138, 2249139

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	103	104	P/P	90 - 110
Total-P	105	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A105736

Included Lab Sample IDs: 2249136

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	104	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A105791

Included Lab Sample IDs: 2249136, 2249137, 2249138, 2249139

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	97.3	P/P	90 - 110
Kjeldahl Nitrogen	97.3	95.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A105849

Included Lab Sample IDs: 2249136, 2249137, 2249138, 2249139

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	98.5	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
EPA 350.1 Rev. 2.0	Ammonia-N	100	91.4	95.8		3.64
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	94.6	101	99.3		0.965
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	101	100		0.496
EPA 365.1 Rev. 2.0	Total-P	107	107	106		0.683
	Total-P	104	104	104		0.0416
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.8	96.1	97.1		0.935
SM 2120 B-2011	Color (true)	97.4			1.75	
SM 2320 B-2011	Total Alkalinity	99.6			1.13	
SM 4500 F-C-2011	Fluoride	99.8	98.6	97.4		0.921
SM 5310 B-2011	Organic Carbon	95.8	95.9	95.9		0.0
	Organic Carbon	97.6	94.2	93.5		0.502
SM 5310 B-2011 dissolved	Organic Carbon	95.8	95.9	95.9		0.0
	Organic Carbon	97.6	94.2	93.5		0.502

Reference Method Descriptions

Method	Description	Associated Samples
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2249136, 2249137, 2249138, 2249139
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2249136, 2249137, 2249138, 2249139
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2249136, 2249137, 2249138, 2249139
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2249136, 2249137, 2249138, 2249139
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2249140, 2249141, 2249142, 2249143
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2249128, 2249129, 2249130, 2249131
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2249128, 2249129, 2249130, 2249131
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2249128, 2249129, 2249130, 2249131
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2249128, 2249129, 2249130, 2249131
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2249136, 2249137, 2249138, 2249139
SM 5310 B-2011 dissolved	Dissolved Nonpurgeable Organic Carbon in filtered, aqueous matrices	2249132, 2249133, 2249134, 2249135

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 350.1 Rev. 2.0	05/21/2021			06/03/2021 12:20	Roberta Tatti	2249136
	05/21/2021			06/03/2021 12:22	Roberta Tatti	2249137
	05/21/2021			06/03/2021 12:23	Roberta Tatti	2249138
	05/21/2021			06/03/2021 12:24	Roberta Tatti	2249139
EPA 351.2 Rev. 2.0	05/21/2021	05/25/2021 12:46	Benjamin T. Nordmann	05/27/2021 16:51	Virginia P. Brown	2249136
	05/21/2021	05/25/2021 12:46	Benjamin T. Nordmann	05/27/2021 16:59	Virginia P. Brown	2249137
	05/21/2021	05/25/2021 12:46	Benjamin T. Nordmann	05/27/2021 17:01	Virginia P. Brown	2249138
	05/21/2021	05/25/2021 12:46	Benjamin T. Nordmann	05/27/2021 17:03	Virginia P. Brown	2249139
EPA 353.2 Rev. 2.0	05/21/2021			05/24/2021 11:07	Beverly Y. Sanders	2249136
	05/21/2021			05/24/2021 11:08	Beverly Y. Sanders	2249137
	05/21/2021			05/24/2021 11:09	Beverly Y. Sanders	2249138
	05/21/2021			05/24/2021 11:11	Beverly Y. Sanders	2249139
EPA 365.1 Rev. 2.0	05/21/2021	05/26/2021 13:31	Yen Ta	05/27/2021 12:04	Shengyu Ding	2249137
	05/21/2021	05/26/2021 13:31	Yen Ta	05/27/2021 12:09	Shengyu Ding	2249138
	05/21/2021	05/26/2021 13:31	Yen Ta	05/27/2021 12:12	Shengyu Ding	2249139
	05/21/2021	05/26/2021 13:31	Yen Ta	05/27/2021 14:44	Shengyu Ding	2249136
EPA 365.1 Rev. 2.0 dissolved	05/21/2021			05/21/2021 14:40	Blanca Fach	2249141
	05/21/2021			05/21/2021 14:43	Blanca Fach	2249140, 2249142
	05/21/2021			05/21/2021 14:44	Blanca Fach	2249143
SM 2120 B-2011	05/21/2021			05/21/2021 16:11	Madeline Gruver	2249128
	05/21/2021			05/21/2021 16:12	Madeline Gruver	2249129, 2249130
	05/21/2021			05/21/2021 16:13	Madeline Gruver	2249131
SM 2320 B-2011	05/21/2021			05/26/2021 20:57	Dale L. Simmons	2249128
	05/21/2021			05/26/2021 21:12	Dale L. Simmons	2249129
	05/21/2021			05/26/2021 21:28	Dale L. Simmons	2249130
	05/21/2021			05/26/2021 21:44	Dale L. Simmons	2249131
SM 2540 D-2011	05/21/2021			05/25/2021 15:06	Yijie Li	2249128, 2249129, 2249130, 2249131
SM 4500 F-C-2011	05/21/2021			05/26/2021 20:57	Dale L. Simmons	2249128
	05/21/2021			05/26/2021 21:12	Dale L. Simmons	2249129
	05/21/2021			05/26/2021 21:28	Dale L. Simmons	2249130
	05/21/2021			05/26/2021 21:44	Dale L. Simmons	2249131
SM 5310 B-2011	05/21/2021			05/26/2021 21:18	Madeline Gruver	2249136
	05/21/2021			05/26/2021 21:31	Madeline Gruver	2249137
	05/21/2021			05/26/2021 21:44	Madeline Gruver	2249138
	05/21/2021			05/26/2021 23:56	Madeline Gruver	2249139
SM 5310 B-2011 dissolved	05/21/2021			05/26/2021 20:39	Madeline Gruver	2249132
	05/21/2021			05/26/2021 20:52	Madeline Gruver	2249133
	05/21/2021			05/26/2021 21:05	Madeline Gruver	2249134
	05/21/2021			05/26/2021 23:43	Madeline Gruver	2249135