Chemical Analysis Report

SO-DIST-2021-09-10-01

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

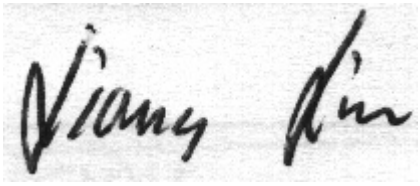
Event Description: **2021SMP_CapeGator**
Request ID: **RQ-2021-09-06-63**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: William Mullen

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 04-OCT-2021 14:58



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: Gator Slough @ Weir **Collection Date/Time: 09/09/2021 08:50**

Field ID: G2SD0034 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2275263	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P403607	
	EPA 300.0 Rev. 2.1	Chloride	39		mg Cl/L	P403724	
		Sulfate	8.1		mg SO4/L	P403725	
	SM 2120 B-2011	Color (true)	69	A	PCU	P403605	
	SM 2320 B-2011	Total Alkalinity	120		mg CaCO3/L	P403655	
	SM 2540 C-2011	TDS	234		mg/L	P403987	
	SM 2540 D-2011	TSS	2	U	mg/L	P403978	
	SM 4500 F-C-2011	Fluoride	0.11		mg F/L	P403659	
2275265	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P403832	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.79		mg N/L	P403662	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.020		mg N/L	P403666	
	EPA 365.1 Rev. 2.0	Total-P	0.033		mg P/L	P403771	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P403748	
2275267	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.013		mg P/L	P403602	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: TelstarCanal@BurntStore **Collection Date/Time: 09/09/2021 11:00**

Field ID: G2SD0049 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2275264	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P403607	
	EPA 300.0 Rev. 2.1	Chloride	48		mg Cl/L	P403724	
		Sulfate	12		mg SO4/L	P403725	
	SM 2120 B-2011	Color (true)	54		PCU	P403605	
	SM 2320 B-2011	Total Alkalinity	146		mg CaCO3/L	P403655	
	SM 2540 C-2011	TDS	282	A	mg/L	P403988	
	SM 2540 D-2011	TSS	2	I A	mg/L	P403979	
	SM 4500 F-C-2011	Fluoride	0.12		mg F/L	P403659	
2275266	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P403832	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P403662	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P403666	
	EPA 365.1 Rev. 2.0	Total-P	0.030		mg P/L	P403771	
	SM 5310 B-2011	Organic Carbon	10		mg C/L	P403748	
2275268	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P403602	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: FB **Collection Date/Time: 09/09/2021 11:50**

Field ID: FB_09092021 Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2275269	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P403607	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P403724	
		Sulfate	0.20	U	mg SO4/L	P403725	
	SM 2120 B-2011	Color (true)	2.5	U	PCU	P403605	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P403655	
	SM 2540 C-2011	TDS	15	U	mg/L	P403987	
	SM 2540 D-2011	TSS	2	U	mg/L	P403978	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P403659	
2275270	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P403832	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P403662	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P403753	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P403771	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P403748	
2275271	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P403602	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
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 180.1 Rev. 2.0
Batch ID: P403607

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403724

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403725

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403832

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403662

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403666

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403753

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403771

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403602

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 2120 B-2011
Batch ID: P403605

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P403655

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

Reference Method: SM 2540 C-2011
Batch ID: P403987

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P403988

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P403978

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P403979

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P403659

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P403748

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403724

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403725

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403832

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403662

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403666

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403753

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: P403771

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403602

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

Reference Method: SM 2120 B-2011
Batch ID: P403605

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.5		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P403655

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P403659

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P403748

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403724

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2274621	Chloride	95.8		P	90 - 110
2275318	Chloride	97.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403725

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2274621	Sulfate	96.6		P	90 - 110
2275318	Sulfate	99.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403832

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2275266	Ammonia-N	98.6	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403662

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2275265	Kjeldahl Nitrogen	105	91.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403666

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2275142	NO2NO3-N	96.5	96.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403753

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2275301	NO2NO3-N	99.0	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403771

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2275324	Total-P	102	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403602

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2275268	O-Phosphate-P	103	103	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P403659

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2274983	Fluoride	99.6	99.1	P/P	92 - 107

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P403748

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2275250	Organic Carbon	101		P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P403607

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2275244	Turbidity	3.90	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403724

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2274621	Chloride	0.245	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403832

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2275266	Ammonia-N	0.717	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403662

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2275265	Kjeldahl Nitrogen	8.06	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403666

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2275142	NO2NO3-N	0.519	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2275301	NO2NO3-N	0.150	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403771

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2275324	Total-P	1.08	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403602

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2275268	O-Phosphate-P	0.582	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: SM 2120 B-2011
Batch ID: P403605

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2275263	Color (true)	0.133	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P403655

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2274983	Total Alkalinity	0.789	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P403987

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2274022	TDS	3.41	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P403988

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2275264	TDS	3.55	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P403659

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2274983	Fluoride	0.479	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P403748

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2275250	Organic Carbon	0.413	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: A107738
Included Lab Sample IDs: 2275267, 2275268, 2275271

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

Reference Method: SM 2120 B-2011
Run ID: A107741
Included Lab Sample IDs: 2275263, 2275264, 2275269

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	100	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A107742
Included Lab Sample IDs: 2275263, 2275264, 2275269

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	102	P/P	95 - 105

Reference Method: SM 2320 B-2011
Run ID: A107760
Included Lab Sample IDs: 2275263, 2275264, 2275269

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

Reference Method: SM 4500 F-C-2011
Run ID: A107760
Included Lab Sample IDs: 2275263, 2275264, 2275269

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A107763
Included Lab Sample IDs: 2275265, 2275266

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A107789
Included Lab Sample IDs: 2275263, 2275264, 2275269

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.7	99.9	P/P	90 - 110
Sulfate	100	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A107796
Included Lab Sample IDs: 2275265, 2275266, 2275270

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	107	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 5310 B-2011
Run ID: A107799
Included Lab Sample IDs: 2275265, 2275266, 2275270

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.6	95.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A107801
Included Lab Sample IDs: 2275270

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A107830
Included Lab Sample IDs: 2275265, 2275266, 2275270

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A107836
Included Lab Sample IDs: 2275265, 2275266, 2275270

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.8	P/P	90 - 110
Total-P	102	100	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	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					3.90	
EPA 300.0 Rev. 2.1	Chloride	97.8	95.8	97.5		0.245	
	Sulfate	96.9	96.6	99.4			
EPA 350.1 Rev. 2.0	Ammonia-N	101	98.6	97.8			0.717
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.5	105	91.7			8.06
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	96.5	96.0			0.519
	NO2NO3-N	102	99.0	98.8			0.150
EPA 365.1 Rev. 2.0	Total-P	105	102	104			1.08
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.9	103	103			0.582
SM 2120 B-2011	Color (true)	98.5				0.133	
SM 2320 B-2011	Total Alkalinity	104				0.789	
SM 2540 C-2011	TDS					3.41	
	TDS					3.55	
SM 4500 F-C-2011	Fluoride	100	99.6	99.1			0.479
SM 5310 B-2011	Organic Carbon	95.4	101				0.413

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2275263, 2275264, 2275269
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2275263, 2275264, 2275269
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2275263, 2275264, 2275269
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2275265, 2275266, 2275270
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2275265, 2275266, 2275270
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2275265, 2275266, 2275270
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2275265, 2275266, 2275270
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2275267, 2275268, 2275271
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2275263, 2275264, 2275269
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2275263, 2275264, 2275269
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2275263, 2275264, 2275269
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2275263, 2275264, 2275269
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2275263, 2275264, 2275269
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2275265, 2275266, 2275270

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	09/10/2021			09/10/2021 16:15	Sarah A Nixon	2275263, 2275264, 2275269
EPA 300.0 Rev. 2.1	09/10/2021			09/14/2021 13:39	Roberta Tatti	2275263
	09/10/2021			09/14/2021 13:51	Roberta Tatti	2275264
	09/10/2021			09/14/2021 14:03	Roberta Tatti	2275269
EPA 350.1 Rev. 2.0	09/10/2021			09/16/2021 13:10	Ping Hua	2275266
	09/10/2021			09/16/2021 13:19	Ping Hua	2275265
	09/10/2021			09/16/2021 13:24	Ping Hua	2275270
EPA 351.2 Rev. 2.0	09/10/2021	09/14/2021 08:30	Benjamin T. Nordmann	09/15/2021 10:11	Alexandra J Mattheus	2275265
	09/10/2021	09/14/2021 08:30	Benjamin T. Nordmann	09/15/2021 10:15	Alexandra J Mattheus	2275266
	09/10/2021	09/14/2021 08:30	Benjamin T. Nordmann	09/15/2021 10:17	Alexandra J Mattheus	2275270
EPA 353.2 Rev. 2.0	09/10/2021			09/14/2021 08:32	Beverly Y. Sanders	2275265
	09/10/2021			09/14/2021 08:33	Beverly Y. Sanders	2275266
	09/10/2021			09/15/2021 09:16	Beverly Y. Sanders	2275270
EPA 365.1 Rev. 2.0	09/10/2021	09/15/2021 10:36	Simonne.V. Calhoun	09/16/2021 16:09	Virginia P. Brown	2275270
	09/10/2021	09/15/2021 10:36	Simonne.V. Calhoun	09/16/2021 16:11	Virginia P. Brown	2275265
	09/10/2021	09/15/2021 10:36	Simonne.V. Calhoun	09/16/2021 16:19	Virginia P. Brown	2275266
EPA 365.1 Rev. 2.0 dissolved	09/10/2021			09/10/2021 14:46	James L Waggerby	2275268
	09/10/2021			09/10/2021 14:51	James L Waggerby	2275267, 2275271
SM 2120 B-2011	09/10/2021			09/10/2021 16:49	Sarah A Nixon	2275263
	09/10/2021			09/10/2021 16:51	Sarah A Nixon	2275264, 2275269
SM 2320 B-2011	09/10/2021			09/14/2021 00:42	Dale L. Simmons	2275263
	09/10/2021			09/14/2021 00:57	Dale L. Simmons	2275264
	09/10/2021			09/14/2021 01:06	Dale L. Simmons	2275269
SM 2540 C-2011	09/10/2021			09/13/2021 14:36	Yijie Li	2275263, 2275264, 2275269
SM 2540 D-2011	09/10/2021			09/13/2021 14:36	Yijie Li	2275263, 2275264, 2275269
SM 4500 F-C-2011	09/10/2021			09/14/2021 00:42	Dale L. Simmons	2275263
	09/10/2021			09/14/2021 00:57	Dale L. Simmons	2275264
	09/10/2021			09/14/2021 01:06	Dale L. Simmons	2275269
SM 5310 B-2011	09/10/2021			09/15/2021 01:00	Touraj Touran	2275265
	09/10/2021			09/15/2021 01:13	Touraj Touran	2275266
	09/10/2021			09/15/2021 01:26	Touraj Touran	2275270