

Chemical Analysis Report

NE-DIST-2021-08-31-02

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

Event Description: **Suwannee Central**
Request ID: **RQ-2021-08-23-04**
Customer: **NE-DIST**
Project ID: **SMP**

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Date Certified: 23-SEP-2021 10:57



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 groups are included in this report: Nutrients and Pesticides.

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: Olustee Creek At SR-18

Collection Date/Time: 08/30/2021 09:55

Field ID: 21030071

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2272873	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P403227	
	EPA 300.0 Rev. 2.1	Chloride	5.5		mg Cl/L	P403407	
		Sulfate	0.20	U	mg SO4/L	P403409	
		Color (true)	640		PCU	P403224	
	SM 2120 B-2011	Total Alkalinity	1.5	I	mg CaCO3/L	P403300	
	SM 2540 C-2011	TDS	112		mg/L	P403469	
	SM 2540 D-2011	TSS	2	I	mg/L	P403470	
	SM 4500 F-C-2011	Fluoride	0.066	I	mg F/L	P403302	
2272874	EPA 350.1 Rev. 2.0	Ammonia-N	0.037		mg N/L	P403359	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P403827	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.025		mg N/L	P403295	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P403256	
	SM 5310 B-2011	Organic Carbon	46		mg C/L	P403345	
2272875	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.17		mg P/L	P403220	
2272883	EPA 8276	Chlordane	5.1	U	ng/L	P403259	
		Toxaphene	31	U	ng/L	P403259	

Sample Location: Cannon CR @ S Ward ST.

Collection Date/Time: 08/30/2021 10:45

Field ID: 21030016FLA

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2272884	EPA 8276	Chlordane	5.2	U	ng/L	P403259	
		Toxaphene	31	U	ng/L	P403259	

Sample Location: FB08302021

Collection Date/Time: 08/30/2021 10:10

Field ID: FB08302021

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2272876	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P403227	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P403407	
		Sulfate	0.20	U	mg SO4/L	P403409	
		Color (true)	2.5	U	PCU	P403224	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P403300	
	SM 2540 C-2011	TDS	15	U	mg/L	P403469	
	SM 2540 D-2011	TSS	2	U	mg/L	P403470	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P403302	
2272877	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P403359	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P403410	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P403296	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P403256	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P403548	
2272878	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P403220	
2272886	EPA 8276	Chlordane	5.2	U	ng/L	P403259	
		Toxaphene	31	U	ng/L	P403259	

Sample Location: Cannon Creek @ CR 341 (Sisters Welcome Rd) Collection Date/Time: 08/30/2021 11:10

Field ID: 21030090

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2272885	EPA 8276	Chlordane	5.2	U	ng/L	P403259	
		Toxaphene	31	U	ng/L	P403259	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P403227

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403407

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403409

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403359

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403410

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403827

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403295

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403296

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403256

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403220

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

Reference Method: EPA 8276
Batch ID: P403259

Component	Result	Code	Units
Chlordane	5.0	U	ng/L
Chlordane	5.0	U	ng/L
Toxaphene	30	U	ng/L
Toxaphene	30	U	ng/L

Reference Method: SM 2120 B-2011
Batch ID: P403224

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P403300

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

Reference Method: SM 2540 C-2011
Batch ID: P403469

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P403470

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P403302

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P403345

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

Reference Method: SM 5310 B-2011
Batch ID: P403548

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: P403407

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403409

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403359

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403410

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403827

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403295

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403296

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	97.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403256

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: P403220

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8276

Batch ID: P403259

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	96.4	89.1	P/P	56 - 117
Toxaphene	100	86.2	P/P	45 - 116

Reference Method: SM 2120 B-2011

Batch ID: P403224

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

Reference Method: SM 2320 B-2011

Batch ID: P403300

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	94 - 106

Reference Method: SM 4500 F-C-2011

Batch ID: P403302

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

Reference Method: SM 5310 B-2011

Batch ID: P403345

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.2		P	85 - 115

Reference Method: SM 5310 B-2011

Batch ID: P403548

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403407

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272421	Chloride	97.5		P	90 - 110
2272891	Chloride	97.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403409

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272421	Sulfate	98.0		P	90 - 110
2272891	Sulfate	98.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403359

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273027	Ammonia-N	97.6	98.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403410

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272892	Kjeldahl Nitrogen	96.7	99.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403827

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2275586	Kjeldahl Nitrogen	97.4	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403295

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272730	NO2NO3-N	98.5	98.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403296

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273003	NO2NO3-N	97.0	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403256

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272178	Total-P	107	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403220

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272803	O-Phosphate-P	102	103	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8276

Batch ID: P403259

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272899	Chlordane	66.2	78.4	P/P	47 - 128
2272899	Toxaphene	74.5	77.1	P/P	11 - 163

Reference Method: SM 4500 F-C-2011

Batch ID: P403302

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272774	Fluoride	100	99.1	P/P	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P403345

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272233	Organic Carbon	96.2	98.8	P/P	85 - 115

Reference Method: SM 5310 B-2011

Batch ID: P403548

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272182	Organic Carbon	99.8	97.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P403227

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272771	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403407

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272421	Chloride	0.345	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403409

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272421	Sulfate	0.156	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403359

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273027	Ammonia-N	0.726	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403410

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272892	Kjeldahl Nitrogen	2.12	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403827

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2275586	Kjeldahl Nitrogen	1.91	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403295

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272730	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403296

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273003	NO2NO3-N	0.277	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P403256

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272178	Total-P	1.87	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P403220

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272803	O-Phosphate-P	0.433	Spike	P	0 - 20

Reference Method: EPA 8276

Batch ID: P403259

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272899	Chlordane	16.9	Spike	P	0 - 30
2272899	Toxaphene	3.45	Spike	P	0 - 30
LFB	Chlordane	7.84	LCS	P	0 - 30
LFB	Toxaphene	15.1	LCS	P	0 - 30

Reference Method: SM 2120 B-2011

Batch ID: P403224

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272771	Color (true)	0.986	Sample	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P403300

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272774	Total Alkalinity	2.41	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011

Batch ID: P403469

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272780	TDS	0.639	Sample	P	0 - 10

Reference Method: SM 2540 D-2011

Batch ID: P403470

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272775	TSS	0.0	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P403302

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272774	Fluoride	0.953	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P403345

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272233	Organic Carbon	1.58	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P403548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272182	Organic Carbon	1.96	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2272883
Field Sample ID: 21030071

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8276	Decachlorobiphenyl	69.0	P	29 - 92.0
EPA 8276	PCNB	81.5	P	43 - 134

Lab Sample ID: 2272884
Field Sample ID: 21030016FLA

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8276	Decachlorobiphenyl	68.1	P	29 - 92.0
EPA 8276	PCNB	73.6	P	43 - 134

Lab Sample ID: 2272885
Field Sample ID: 21030090

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8276	Decachlorobiphenyl	71.4	P	29 - 92.0
EPA 8276	PCNB	75.3	P	43 - 134

Lab Sample ID: 2272886
Field Sample ID: FB08302021

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8276	Decachlorobiphenyl	61.2	P	29 - 92.0
EPA 8276	PCNB	78.7	P	43 - 134

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A107576

Included Lab Sample IDs: 2272875, 2272878

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

Reference Method: SM 2120 B-2011

Run ID: A107577

Included Lab Sample IDs: 2272873, 2272876

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 115
Color (true)	99.9	100	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A107578

Included Lab Sample IDs: 2272873, 2272876

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A107613

Included Lab Sample IDs: 2272874, 2272877

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.0	97.5	P/P	90 - 110
NO2NO3-N	98.5	98.0	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A107614

Included Lab Sample IDs: 2272873, 2272876

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.6	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A107614

Included Lab Sample IDs: 2272873, 2272876

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A107615

Included Lab Sample IDs: 2272874

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.6	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A107622

Included Lab Sample IDs: 2272877

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: A107622

Included Lab Sample IDs: 2272877

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A107634

Included Lab Sample IDs: 2272873, 2272876

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	99.9	P/P	90 - 110
Chloride	99.3	100	P/P	90 - 110
Sulfate	100	99.9	P/P	90 - 110
Sulfate	99.0	100	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A107635

Included Lab Sample IDs: 2272874

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A107641

Included Lab Sample IDs: 2272874, 2272877

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.8	98.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A107674

Included Lab Sample IDs: 2272877

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.1	95.4	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A107704

Included Lab Sample IDs: 2272877

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	97.0	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A107749

Included Lab Sample IDs: 2272883, 2272884, 2272885, 2272886

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	104		P	80 - 120
Chlordane	99.6		P	80 - 120
Toxaphene	109		P	80 - 120
Toxaphene	85.0		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A107853

Included Lab Sample IDs: 2272874

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	99.0	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	
EPA 180.1 Rev. 2.0	Turbidity						0.0	
EPA 300.0 Rev. 2.1	Chloride	99.3		97.5	97.3		0.345	
	Sulfate	98.3		98.0	98.4		0.156	
EPA 350.1 Rev. 2.0	Ammonia-N	99.4		97.6	98.4			0.726
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107		96.7	99.4			2.12
	Kjeldahl Nitrogen	100		97.4	99.5			1.91
EPA 353.2 Rev. 2.0	NO2NO3-N	98.0		98.5	98.5			0.0
	NO2NO3-N	97.5		97.0	96.5			0.277
EPA 365.1 Rev. 2.0	Total-P	105		107	105			1.87
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102		102	103			0.433
EPA 8276	Chlordane	96.4	89.1	66.2	78.4	7.84		16.9
	Toxaphene	100	86.2	74.5	77.1	15.1		3.45
SM 2120 B-2011	Color (true)	101					0.986	
SM 2320 B-2011	Total Alkalinity	100					2.41	
SM 2540 C-2011	TDS						0.639	
SM 2540 D-2011	TSS						0.0	
SM 4500 F-C-2011	Fluoride	100		100	99.1			0.953
SM 5310 B-2011	Organic Carbon	99.2		96.2	98.8			1.58
	Organic Carbon	94.4		99.8	97.5			1.96

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2272873, 2272876
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2272873, 2272876
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2272873, 2272876
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2272874, 2272877
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2272874, 2272877
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2272874, 2272877
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2272874, 2272877
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2272875, 2272878
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2272883, 2272884, 2272885, 2272886
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2272873, 2272876
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2272873, 2272876
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2272873, 2272876
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2272873, 2272876
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2272873, 2272876
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2272874, 2272877

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	08/31/2021			08/31/2021 14:52	Sarah A Nixon	2272873, 2272876
EPA 300.0 Rev. 2.1	08/31/2021			09/03/2021 17:12	Roberta Tatti	2272873
	08/31/2021			09/03/2021 17:48	Roberta Tatti	2272876
EPA 350.1 Rev. 2.0	08/31/2021			09/03/2021 11:38	Ping Hua	2272874
	08/31/2021			09/03/2021 11:46	Ping Hua	2272877
EPA 351.2 Rev. 2.0	08/31/2021	09/07/2021 12:14	Benjamin T. Nordmann	09/08/2021 09:38	Alexandra J Mattheus	2272877
	08/31/2021	09/16/2021 12:36	Benjamin T. Nordmann	09/17/2021 11:56	Alexandra J Mattheus	2272874
EPA 353.2 Rev. 2.0	08/31/2021			09/02/2021 09:56	Beverly Y. Sanders	2272874
	08/31/2021			09/02/2021 10:09	Beverly Y. Sanders	2272877
EPA 365.1 Rev. 2.0	08/31/2021	09/01/2021 14:48	Simonne.V. Calhoun	09/02/2021 11:17	Lipi Saha	2272874
	08/31/2021	09/01/2021 14:48	Simonne.V. Calhoun	09/02/2021 15:36	Lipi Saha	2272877
EPA 365.1 Rev. 2.0 dissolved	08/31/2021			08/31/2021 14:59	James L Waggeberby	2272875
	08/31/2021			08/31/2021 15:01	James L Waggeberby	2272878
EPA 8276	08/31/2021	09/03/2021 08:00	Rasheda Ghaffari	09/10/2021 09:12	Julie Wi	2272883
	08/31/2021	09/03/2021 08:00	Rasheda Ghaffari	09/10/2021 11:03	Julie Wi	2272884
	08/31/2021	09/03/2021 08:00	Rasheda Ghaffari	09/10/2021 11:58	Julie Wi	2272885
	08/31/2021	09/03/2021 08:00	Rasheda Ghaffari	09/10/2021 12:53	Julie Wi	2272886
SM 2120 B-2011	08/31/2021			08/31/2021 15:45	Sarah A Nixon	2272876
	08/31/2021			08/31/2021 15:49	Sarah A Nixon	2272873
SM 2320 B-2011	08/31/2021			09/01/2021 17:11	Dale L. Simmons	2272873
	08/31/2021			09/01/2021 17:28	Dale L. Simmons	2272876
SM 2540 C-2011	08/31/2021			09/03/2021 11:43	Simonne.V. Calhoun	2272873, 2272876
SM 2540 D-2011	08/31/2021			09/03/2021 16:00	Simonne.V. Calhoun	2272873, 2272876
SM 4500 F-C-2011	08/31/2021			09/01/2021 17:11	Dale L. Simmons	2272873
	08/31/2021			09/01/2021 17:28	Dale L. Simmons	2272876
SM 5310 B-2011	08/31/2021			09/02/2021 10:41	Touraj Touran	2272874
	08/31/2021			09/08/2021 19:22	Madeline Gruver	2272877