

Chemical Analysis Report

SO-DIST-2021-08-13-02

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

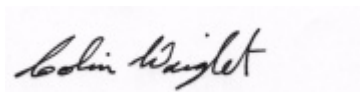
Event Description: **2021 SMP : Okee Canals**
Request ID: **RQ-2021-08-09-69**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
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Certified by: Colin Wright, Program Administrator

Date Certified: 08-SEP-2021 08:52

A handwritten signature in black ink, appearing to read "Colin Wright", is shown on a light-colored rectangular background.

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: Harney Pond Canal @ SR 70

Collection Date/Time: 08/12/2021 09:45

Field ID: G4SD0173

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2269339	EPA 180.1 Rev. 2.0	Turbidity	8.0		NTU	P402481	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P402996	
		Sulfate	71		mg SO4/L	P402999	
	SM 2120 B-2011	Color (true)	450		PCU	P402479	
	SM 2320 B-2011	Total Alkalinity	50		mg CaCO3/L	P402666	
	SM 2540 C-2011	TDS	311		mg/L	P402862	
	SM 2540 D-2011	TSS	7	I	mg/L	P402753	
	SM 4500 F-C-2011	Fluoride	0.13		mg F/L	P402668	
2269341	EPA 350.1 Rev. 2.0	Ammonia-N	0.51		mg N/L	P402581	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	3.2		mg N/L	P403019	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P402630	
	EPA 365.1 Rev. 2.0	Total-P	0.61		mg P/L	P402924	
	SM 5310 B-2011	Organic Carbon	46		mg C/L	P403056	
2269343	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.45		mg P/L	P402470	

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.

Sample Location: Indian Prairie Canal @ SR 70

Collection Date/Time: 08/12/2021 10:10

Field ID: G4SD0174

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2269345	EPA 180.1 Rev. 2.0	Turbidity	6.9		NTU	P402481	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P402996	
		Sulfate	11		mg SO4/L	P402999	
	SM 2120 B-2011	Color (true)	440		PCU	P402479	
	SM 2320 B-2011	Total Alkalinity	14		mg CaCO3/L	P402666	
	SM 2540 C-2011	TDS	155		mg/L	P402862	
	SM 2540 D-2011	TSS	9	I	mg/L	P402753	
	SM 4500 F-C-2011	Fluoride	0.068	I	mg F/L	P402668	
2269346	EPA 350.1 Rev. 2.0	Ammonia-N	0.24		mg N/L	P402707	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.9		mg N/L	P403019	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P402630	
	EPA 365.1 Rev. 2.0	Total-P	0.048		mg P/L	P402562	MS
	SM 5310 B-2011	Organic Carbon	30		mg C/L	P403056	
2269347	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P402470	
2269353	EPA 8276	Chlordane	5.2	U	ng/L	P402487	
		Toxaphene	31	U	ng/L	P402487	

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.

Sample Location: C-41 A @ SR 70

Collection Date/Time: 08/12/2021 10:40

Field ID: G4SD0175

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2269340	EPA 180.1 Rev. 2.0	Turbidity	12		NTU	P402481	
	EPA 300.0 Rev. 2.1	Chloride	23		mg Cl/L	P402996	
		Sulfate	25		mg SO4/L	P402999	
	SM 2120 B-2011	Color (true)	89		PCU	P402479	
	SM 2320 B-2011	Total Alkalinity	26		mg CaCO3/L	P402666	
	SM 2540 C-2011	TDS	124		mg/L	P402862	
	SM 2540 D-2011	TSS	24	I	mg/L	P402753	
	SM 4500 F-C-2011	Fluoride	0.074	I	mg F/L	P402668	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P402707	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P403019	
2269342	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P402630	
	EPA 365.1 Rev. 2.0	Total-P	0.089		mg P/L	P402562	MS
	SM 5310 B-2011	Organic Carbon	16		mg C/L	P403056	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P402470	
2269344	EPA 365.1 Rev. 2.0 dissolved						

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. The PQL was elevated because of sample matrix interference.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: L-49

Collection Date/Time: 08/12/2021 11:25

Field ID: G4SD0190

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2269336	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P402481	
	EPA 300.0 Rev. 2.1	Chloride	98		mg Cl/L	P402996	
		Sulfate	42		mg SO4/L	P402999	
		Color (true)	88	A	PCU	P402479	
	SM 2320 B-2011	Total Alkalinity	188		mg CaCO3/L	P402666	
	SM 2540 C-2011	TDS	480		mg/L	P402862	
	SM 2540 D-2011	TSS	4	I	mg/L	P402753	
	SM 4500 F-C-2011	Fluoride	0.19		mg F/L	P402668	
2269337	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P402572	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P403019	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P402630	
	EPA 365.1 Rev. 2.0	Total-P	0.040		mg P/L	P402561	MS
	SM 5310 B-2011	Organic Carbon	19		mg C/L	P403056	
2269338	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P402470	

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: EPA 180.1 Rev. 2.0
Batch ID: P402481

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402996

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402999

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402572

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402581

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402707

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403019

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P402630

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402561

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
Batch ID: P402562

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402924

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P402470

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

Reference Method: EPA 8276
Batch ID: P402487

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: P402479

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P402666

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

Reference Method: SM 2540 C-2011
Batch ID: P402862

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P402753

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P402668

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P403056

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: P402996

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402999

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402572

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402581

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402707

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403019

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	103		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P402630

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: P402561

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402562

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	108		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402924

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P402470

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

Reference Method: EPA 8276
Batch ID: P402487

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	96.1	108	P/P	56 - 117
Toxaphene	97.9	95.2	P/P	45 - 116

Reference Method: SM 2120 B-2011
Batch ID: P402479

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P402666

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P402668

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.6		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P403056

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402996

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2269293	Chloride	97.5		P	90 - 110
2269459	Chloride	97.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402999

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2269293	Sulfate	97.5		P	90 - 110
2269459	Sulfate	97.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402572

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2269294	Ammonia-N	99.8	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402581

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2269167	Ammonia-N	95.6	97.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402707

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2269295	Ammonia-N	97.2	97.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P402630

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2269337	NO2NO3-N	98.0	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402561

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2269316	Total-P	112	112	F/F	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402562

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2269418	Total-P	115	111	F/F	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402924

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2269998	Total-P	107	107	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P402470

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2269344	O-Phosphate-P	94.8	91.1	P/P	90 - 110

Reference Method: EPA 8276
Batch ID: P402487

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2268402	Chlordane	91.9	90.8	P/P	47 - 128
2268402	Toxaphene	91.9	86.2	P/P	11 - 163

Reference Method: SM 4500 F-C-2011
Batch ID: P402668

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2269281	Fluoride	99.2	98.2	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P403056

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2269434	Organic Carbon	93.6	93.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P402481

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2269292	Turbidity	3.58	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402996

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2269293	Chloride	2.23	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402999

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2269293	Sulfate	0.141	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402572

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2269294	Ammonia-N	1.59	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402581

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2269167	Ammonia-N	1.67	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402707

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2269295	Ammonia-N	0.206	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403019

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2269342	Kjeldahl Nitrogen	4.88	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P402630

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2269337	NO2NO3-N	1.02	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402561

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2269316	Total-P	0.178	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402562

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2269418	Total-P	2.81	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402924

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2269998	Total-P	0.182	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P402470

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2269344	O-Phosphate-P	3.98	Spike	P	0 - 20

Reference Method: EPA 8276
Batch ID: P402487

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2268402	Chlordane	1.19	Spike	P	0 - 30
2268402	Toxaphene	6.49	Spike	P	0 - 30
LFB	Chlordane	12.1	LCS	P	0 - 30
LFB	Toxaphene	2.78	LCS	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P402479

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2269336	Color (true)	0.288	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P402666

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2269281	Total Alkalinity	0.793	Sample	P	0 - 5.2

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
Batch ID: P402862

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2269293	TDS	0.509	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P402668

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2269281	Fluoride	0.988	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P403056

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2269434	Organic Carbon	0.291	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2269353
Field Sample ID: G4SD0174

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8276	Decachlorobiphenyl	67.9	P	29 - 92.0
EPA 8276	PCNB	92.3	P	43 - 134

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A107247

Included Lab Sample IDs: 2269338, 2269343, 2269344, 2269347

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.4	99.2	P/P	90 - 110
O-Phosphate-P	99.4	98.4	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A107251

Included Lab Sample IDs: 2269336, 2269339, 2269340, 2269345

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	90 - 115
Color (true)	103	102	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A107252

Included Lab Sample IDs: 2269336, 2269339, 2269340, 2269345

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	101	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A107292

Included Lab Sample IDs: 2269337, 2269341

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	99.3	P/P	90 - 110
Ammonia-N	98.7	99.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A107311

Included Lab Sample IDs: 2269337, 2269341, 2269342, 2269346

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

Reference Method: SM 2320 B-2011

Run ID: A107332

Included Lab Sample IDs: 2269336, 2269339, 2269340, 2269345

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	102	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A107332

Included Lab Sample IDs: 2269336, 2269339, 2269340, 2269345

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A107342

Included Lab Sample IDs: 2269342, 2269346

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.7	98.9	P/P	90 - 110
Ammonia-N	98.9	98.7	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A107349

Included Lab Sample IDs: 2269353

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	96.4		P	80 - 120
Toxaphene	103		P	80 - 120

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A107369

Included Lab Sample IDs: 2269337, 2269346

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A107424

Included Lab Sample IDs: 2269342

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A107449

Included Lab Sample IDs: 2269336, 2269339, 2269340, 2269345

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.5	99.4	P/P	90 - 110
Sulfate	99.3	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A107485

Included Lab Sample IDs: 2269341

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	106	105	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A107501

Included Lab Sample IDs: 2269337, 2269341, 2269342, 2269346

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A107508

Included Lab Sample IDs: 2269337, 2269341, 2269342, 2269346

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.1	96.3	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	
							SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						3.58	
EPA 300.0 Rev. 2.1	Chloride	98.6		97.5	97.8		2.23	
	Sulfate	98.7		97.5	97.8		0.141	
EPA 350.1 Rev. 2.0	Ammonia-N	102		99.8	101			1.59
	Ammonia-N	101		95.6	97.4			1.67
	Ammonia-N	98.6		97.2	97.4			0.206
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103						4.88
EPA 353.2 Rev. 2.0	NO2NO3-N	100		98.0	99.0			1.02
EPA 365.1 Rev. 2.0	Total-P	110		112	112			0.178
	Total-P	108		115	111			2.81
	Total-P	107		107	107			0.182
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.2		94.8	91.1			3.98
EPA 8276	Chlordane	96.1	108	91.9	90.8	12.1		1.19
	Toxaphene	97.9	95.2	91.9	86.2	2.78		6.49
SM 2120 B-2011	Color (true)	102					0.288	
SM 2320 B-2011	Total Alkalinity	102					0.793	
SM 2540 C-2011	TDS						0.509	
SM 4500 F-C-2011	Fluoride	99.6		99.2	98.2			0.988
SM 5310 B-2011	Organic Carbon	96.0		93.6	93.1			0.291

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2269336, 2269339, 2269340, 2269345
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2269336, 2269339, 2269340, 2269345
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2269336, 2269339, 2269340, 2269345
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2269337, 2269341, 2269342, 2269346
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2269337, 2269341, 2269342, 2269346
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2269337, 2269341, 2269342, 2269346
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2269337, 2269341, 2269342, 2269346
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2269338, 2269343, 2269344, 2269347
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2269353
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2269336, 2269339, 2269340, 2269345
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2269336, 2269339, 2269340, 2269345
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2269336, 2269339, 2269340, 2269345
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2269336, 2269339, 2269340, 2269345
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2269336, 2269339, 2269340, 2269345
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2269337, 2269341, 2269342, 2269346

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	08/13/2021			08/13/2021 15:42	Sarah A Nixon	2269336, 2269339, 2269340, 2269345
EPA 300.0 Rev. 2.1	08/13/2021			08/25/2021 15:09	Lipi Saha	2269336
	08/13/2021			08/25/2021 15:21	Lipi Saha	2269339
	08/13/2021			08/25/2021 15:33	Lipi Saha	2269340
	08/13/2021			08/25/2021 15:45	Lipi Saha	2269345
EPA 350.1 Rev. 2.0	08/13/2021			08/17/2021 12:24	Roberta Tatti	2269337
	08/13/2021			08/17/2021 14:01	Roberta Tatti	2269341
	08/13/2021			08/19/2021 13:35	Roberta Tatti	2269342
	08/13/2021			08/19/2021 13:59	Roberta Tatti	2269346
EPA 351.2 Rev. 2.0	08/13/2021	08/26/2021 13:43	Benjamin T. Nordmann	08/27/2021 10:39	Virginia P. Brown	2269337
	08/13/2021	08/26/2021 13:43	Benjamin T. Nordmann	08/27/2021 10:41	Virginia P. Brown	2269341
	08/13/2021	08/26/2021 13:43	Benjamin T. Nordmann	08/27/2021 10:43	Virginia P. Brown	2269342
	08/13/2021	08/26/2021 13:43	Benjamin T. Nordmann	08/27/2021 10:47	Virginia P. Brown	2269346
EPA 353.2 Rev. 2.0	08/13/2021			08/18/2021 12:48	Beverly Y. Sanders	2269337
	08/13/2021			08/18/2021 12:56	Beverly Y. Sanders	2269341
	08/13/2021			08/18/2021 12:57	Beverly Y. Sanders	2269342
	08/13/2021			08/18/2021 12:58	Beverly Y. Sanders	2269346
EPA 365.1 Rev. 2.0	08/13/2021	08/17/2021 14:55	Simonne.V. Calhoun	08/20/2021 14:03	Shengyu Ding	2269337
	08/13/2021	08/17/2021 14:55	Simonne.V. Calhoun	08/20/2021 14:06	Shengyu Ding	2269346
	08/13/2021	08/17/2021 14:55	Simonne.V. Calhoun	08/24/2021 11:16	Lipi Saha	2269342
	08/13/2021	08/25/2021 14:45	Simonne.V. Calhoun	08/26/2021 15:11	Shengyu Ding	2269341
EPA 365.1 Rev. 2.0 dissolved	08/13/2021			08/13/2021 14:43	Blanca Fach	2269344
	08/13/2021			08/13/2021 14:54	Blanca Fach	2269338
	08/13/2021			08/13/2021 14:55	Blanca Fach	2269343
	08/13/2021			08/13/2021 14:58	Blanca Fach	2269347
EPA 8276	08/13/2021	08/16/2021 08:30	Rasheda Ghaffari	08/19/2021 14:12	Michael Poppell	2269353
SM 2120 B-2011	08/13/2021			08/13/2021 16:30	Sarah A Nixon	2269336
	08/13/2021			08/13/2021 16:31	Sarah A Nixon	2269340
	08/13/2021			08/13/2021 16:54	Sarah A Nixon	2269339
	08/13/2021			08/13/2021 16:56	Sarah A Nixon	2269345
SM 2320 B-2011	08/13/2021			08/18/2021 19:31	Dale L. Simmons	2269336
	08/13/2021			08/18/2021 19:46	Dale L. Simmons	2269339
	08/13/2021			08/18/2021 20:00	Dale L. Simmons	2269340
	08/13/2021			08/18/2021 20:12	Dale L. Simmons	2269345
SM 2540 C-2011	08/13/2021			08/16/2021 15:36	Yijie Li	2269336, 2269339, 2269340, 2269345
SM 2540 D-2011	08/13/2021			08/16/2021 15:36	Yijie Li	2269336, 2269339, 2269340, 2269345
SM 4500 F-C-2011	08/13/2021			08/18/2021 19:31	Dale L. Simmons	2269336
	08/13/2021			08/18/2021 19:46	Dale L. Simmons	2269339
	08/13/2021			08/18/2021 20:00	Dale L. Simmons	2269340
	08/13/2021			08/18/2021 20:12	Dale L. Simmons	2269345

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	08/13/2021			08/26/2021 08:50	Madeline Gruver	2269337
	08/13/2021			08/26/2021 09:06	Madeline Gruver	2269341
	08/13/2021			08/26/2021 09:19	Madeline Gruver	2269342
	08/13/2021			08/26/2021 09:32	Madeline Gruver	2269346