

Chemical Analysis Report

SO-DIST-2021-10-27-01

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

Event Description: **2021 SMP: Continuous Spring Creek**

Request ID: **RQ-2021-10-25-54**

Customer: **SO-DIST**

Project ID: **SMP**

Send Reports to:

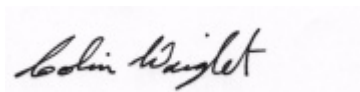
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: William Mullen

For additional information please contact

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Certified by: Colin Wright, Program Administrator

Date Certified: 19-NOV-2021 15:14

A handwritten signature in black ink, appearing to read "Colin Wright", is shown on a light-colored 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: Spring Creek @ US41

Collection Date/Time: 10/26/2021 09:35

Field ID: G1SD0109

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2286211	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P405687	
	SM 2320 B-2011	Total Alkalinity	266		mg CaCO3/L	P406012	
	SM 2540 D-2011	TSS	3	U	mg/L	P406281	
	SM 4500 F-C-2011	Fluoride	0.19		mg F/L	P406014	
2286212	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P406063	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.85		mg N/L	P405935	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.17		mg N/L	P405807	
	EPA 365.1 Rev. 2.0	Total-P	0.042		mg P/L	P405791	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P406059	
2286213	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.019		mg P/L	P405680	
2286217	EPA 8321B	Acesulfame K	0.27	I	ug/L	P405602	
		2,4-D	0.098		ug/L	P405750	
		AMPA	1.0	U	ug/L	P405602	
		2,4,5-T	0.0040	U	ug/L	P405750	
		Acetaminophen	0.020	I	ug/L	P405750	
		Endothall	0.25	U	ug/L	P405602	
		Acetamiprid	0.0020	U	ug/L	P405750	
		Glufosinate	1.0	U	ug/L	P405602	
		Glyphosate	2.0	I	ug/L	P405602	
		Afidopyropen	0.0020	U	ug/L	P405750	
		Sucralose	1.0		ug/L	P405602	
		Bentazon	0.26		ug/L	P405750	
		Benzovindiflupyr	0.0020	U	ug/L	P405750	
		Carbamazepine	0.0015	I	ug/L	P405750	
		Clothianidin	0.0020	U	ug/L	P405750	
		Dinotefuran	0.0031	I	ug/L	P405750	
		Diuron	0.0020	U	ug/L	P405750	
		Fenuron	0.016	U	ug/L	P405750	
		Fluridone	0.031		ug/L	P405750	
		Imazapyr	0.19		ug/L	P405750	
		Hydrocodone	0.0020	U	ug/L	P405750	
		Ibuprofen	0.020	U	ug/L	P405750	
		Imidacloprid	0.0052	I	ug/L	P405750	MS
		Linuron	0.0040	U	ug/L	P405750	
		Mandestrobin	0.0020	U	ug/L	P405750	
		MCP	0.0040	U	ug/L	P405750	
		Naproxen	0.0080	U	ug/L	P405750	MS
		Primidone	0.0096	I	ug/L	P405750	
		Pyraclostrobin	0.0020	U	ug/L	P405750	
		Thiamethoxam	0.0020	U	ug/L	P405750	
		Tolfenpyrad	0.0020	U	ug/L	P405750	
		Triclopyr	0.0040	U	ug/L	P405750	

Field ID: G1SD0109

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: MDL for some parameters elevated due to matrix interference.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P405687

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P406063

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405935

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405807

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405791

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405680

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

Reference Method: EPA 8321B
Batch ID: P405602

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P405750

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P405750

Component	Result	Code	Units
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0040	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011

Batch ID: P406012

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

Reference Method: SM 2540 D-2011

Batch ID: P406281

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011

Batch ID: P406014

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P406059

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: P406063

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405935

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405807

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405791

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405680

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.7		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P405602

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	104		P	40 - 150
AMPA	95.8		P	40 - 160
Endothall	82.9		P	40 - 150
Glufosinate	97.0		P	40 - 160
Glyphosate	95.6		P	40 - 160
Sucralose	94.8		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P405750

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	89.0		P	40 - 150
2,4,5-T	89.5		P	40 - 150
Acetaminophen	82.9		P	30 - 150
Acetamiprid	84.3		P	40 - 150
Afidopyropen	68.8		P	40 - 150
Bentazon	88.0		P	30 - 150
Benzovindiflupyr	75.5		P	40 - 150
Carbamazepine	86.1		P	40 - 150
Clothianidin	88.8		P	40 - 150
Dinotefuran	74.6		P	40 - 150
Diuron	80.2		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P405750

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fenuron	83.2		P	40 - 150
Fluridone	89.9		P	40 - 150
Hydrocodone	78.1		P	40 - 150
Ibuprofen	79.0		P	40 - 150
Imazapyr	92.9		P	40 - 150
Imidacloprid	80.8		P	40 - 150
Linuron	69.4		P	40 - 150
Mandestrobin	77.1		P	40 - 150
MCPP	88.2		P	40 - 150
Naproxen	95.5		P	40 - 150
Primidone	81.7		P	40 - 150
Pyraclostrobin	77.9		P	40 - 150
Thiamethoxam	81.6		P	40 - 150
Tolfenpyrad	50.2		P	30 - 150
Triclopyr	90.1		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P406012

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P406014

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

Reference Method: SM 5310 B-2011
Batch ID: P406059

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P406063

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2287093	Ammonia-N	102	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405935

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285673	Kjeldahl Nitrogen	93.1	94.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405807

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285753	NO2NO3-N	99.6	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405791

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2281624	Total-P	105	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405680

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286213	O-Phosphate-P	97.0	98.2	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P405602

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285918	Acesulfame K	150	142	P/P	40 - 150
2285918	AMPA	61.8	60.3	P/P	40 - 160
2285918	Endothall	96.3	89.5	P/P	40 - 150
2285918	Glufosinate	64.7	65.4	P/P	40 - 160
2285918	Glyphosate	106	107	P/P	40 - 160
2285918	Sucralose	94.5	96.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P405750

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286692	2,4-D	110	95.7	P/P	40 - 150
2286692	2,4,5-T	109	113	P/P	40 - 150
2286692	Acetaminophen	115	102	P/P	30 - 150
2286692	Acetamiprid	84.1	85.6	P/P	40 - 150
2286692	Afidopyrophen	79.4	74.3	P/P	40 - 150
2286692	Bentazon	58.9	62.3	P/P	30 - 150
2286692	Benzovindiflupyr	95.1	89.9	P/P	40 - 150
2286692	Carbamazepine	106	102	P/P	40 - 150
2286692	Clothianidin	124	103	P/P	40 - 150
2286692	Dinotefuran	131	115	P/P	40 - 150
2286692	Diuron	85.1	80.1	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P405750

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286692	Fenuron	93.8	92.4	P/P	40 - 150
2286692	Fluridone	106	97.7	P/P	40 - 150
2286692	Hydrocodone	107	97.8	P/P	40 - 150
2286692	Ibuprofen	89.6	90.7	P/P	40 - 150
2286692	Imazapyr	135	93.1	P/P	40 - 150
2286692	Imidacloprid	166	160	F/F	40 - 150
2286692	Linuron	80.9	82.1	P/P	40 - 150
2286692	Mandestrobin	95.0	94.6	P/P	40 - 150
2286692	MCPD	110	114	P/P	40 - 150
2286692	Naproxen	156	121	F/P	40 - 150
2286692	Primidone	99.3	98.8	P/P	40 - 150
2286692	Pyraclostrobin	91.2	86.4	P/P	40 - 150
2286692	Thiamethoxam	126	146	P/P	40 - 150
2286692	Tolfenpyrad	57.4	53.8	P/P	30 - 150
2286692	Triclopyr	107	110	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P406014

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286492	Fluoride	99.9	101	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P406059

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286762	Organic Carbon	92.2	93.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P405687

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286189	Turbidity	1.85	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P406063

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2287093	Ammonia-N	1.87	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405935

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285673	Kjeldahl Nitrogen	1.21	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405807

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285753	NO2NO3-N	1.25	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405791

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2281624	Total-P	0.148	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405680

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286213	O-Phosphate-P	1.03	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P405602

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285918	Acesulfame K	5.21	Spike	P	0 - 30
2285918	AMPA	2.38	Spike	P	0 - 30
2285918	Endothall	7.33	Spike	P	0 - 30
2285918	Glufosinate	1.06	Spike	P	0 - 30
2285918	Glyphosate	0.379	Spike	P	0 - 30
2285918	Sucralose	1.28	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P405750

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286692	2,4-D	9.82	Spike	P	0 - 30
2286692	2,4,5-T	3.75	Spike	P	0 - 30
2286692	Acetaminophen	12.2	Spike	P	0 - 30
2286692	Acetamiprid	1.74	Spike	P	0 - 30
2286692	Afidopyropen	6.75	Spike	P	0 - 30
2286692	Bentazon	5.56	Spike	P	0 - 30
2286692	Benzovindiflupyr	5.66	Spike	P	0 - 30
2286692	Carbamazepine	3.54	Spike	P	0 - 30
2286692	Clothianidin	9.41	Spike	P	0 - 30
2286692	Dinotefuran	13.2	Spike	P	0 - 30
2286692	Diuron	4.48	Spike	P	0 - 30
2286692	Fenuron	1.47	Spike	P	0 - 30
2286692	Fluridone	8.48	Spike	P	0 - 30
2286692	Hydrocodone	9.38	Spike	P	0 - 30
2286692	Ibuprofen	1.29	Spike	P	0 - 30
2286692	Imazapyr	15.0	Spike	P	0 - 30
2286692	Imidacloprid	1.03	Spike	P	0 - 30
2286692	Linuron	1.49	Spike	P	0 - 30
2286692	Mandestrobin	0.469	Spike	P	0 - 30
2286692	MCP	3.81	Spike	P	0 - 30
2286692	Naproxen	25.1	Spike	P	0 - 30
2286692	Primidone	0.473	Spike	P	0 - 30
2286692	Pyraclostrobin	5.36	Spike	P	0 - 30
2286692	Thiamethoxam	4.21	Spike	P	0 - 30
2286692	Tolfenpyrad	6.37	Spike	P	0 - 30
2286692	Triclopyr	3.04	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P406012

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286492	Total Alkalinity	2.24	Sample	P	0 - 5.2

Reference Method: SM 4500 F-C-2011
Batch ID: P406014

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286492	Fluoride	0.483	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P406059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286762	Organic Carbon	1.52	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2286217

Field Sample ID: G1SD0109

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	104	P	30 - 160
EPA 8321B	Acetaminophen-d4	95.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	104	P	30 - 160
EPA 8321B	Diuron-d6	88.6	P	30 - 160
EPA 8321B	Endothall-d6	44.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	125	P	30 - 160
EPA 8321B	Ibuprofen-d3	66.7	P	30 - 160
EPA 8321B	Primidone-d5	104	P	30 - 160
EPA 8321B	Sucralose-d6	76.5	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A108565

Included Lab Sample IDs: 2286213

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.6	98.5	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A108569

Included Lab Sample IDs: 2286211

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

Reference Method: EPA 8321B

Run ID: A108618

Included Lab Sample IDs: 2286217

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	99.7	93.8	P/P	60 - 160
Endothall	80.5	76.9	P/P	60 - 160
Sucralose	87.9	94.0	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A108641

Included Lab Sample IDs: 2286217

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	100	96.0	P/P	60 - 160
Glufosinate	97.9	93.6	P/P	60 - 160
Glyphosate	105	104	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A108647

Included Lab Sample IDs: 2286212

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A108713

Included Lab Sample IDs: 2286212

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	102	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A108714

Included Lab Sample IDs: 2286211

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	97.8	P/P	90 - 110

Quality Assurance Report

Calibration Verification

Reference Method: SM 4500 F-C-2011

Run ID: A108714

Included Lab Sample IDs: 2286211

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A108715

Included Lab Sample IDs: 2286212

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.8	96.0	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A108741

Included Lab Sample IDs: 2286212

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.4	98.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A108743

Included Lab Sample IDs: 2286212

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.9	96.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A108750

Included Lab Sample IDs: 2286217

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	110	91.2	P/P	50 - 150
2,4,5-T	101	99.3	P/P	50 - 150
Acetaminophen	91.7	101	P/P	60 - 160
Acetamiprid	102	105	P/P	50 - 150
Afidopyropen	98.4	97.5	P/P	50 - 150
Benzovindiflupyr	110	103	P/P	50 - 150
Carbamazepine	100	103	P/P	60 - 150
Clothianidin	109	109	P/P	60 - 150
Dinotefuran	96.5	105	P/P	50 - 150
Diuron	96.9	117	P/P	60 - 160
Fenuron	97.0	98.9	P/P	60 - 150
Fluridone	105	111	P/P	60 - 160
Hydrocodone	96.4	101	P/P	60 - 150
Ibuprofen	127	84.4	P/P	50 - 160
Imazapyr	105	141	P/P	50 - 150
Imidacloprid	96.1	94.5	P/P	60 - 150
Linuron	107	104	P/P	60 - 150
Mandestrobin	104	103	P/P	50 - 150
MCPP	89.6	86.1	P/P	50 - 150
Naproxen	109	113	P/P	50 - 160
Primidone	109	103	P/P	60 - 150
Pyraclostrobin	102	98.7	P/P	60 - 150
Thiamethoxam	96.2	97.1	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A108750
Included Lab Sample IDs: 2286217

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Tolfenpyrad	106	106	P/P	60 - 150
Triclopyr	102	102	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A108777
Included Lab Sample IDs: 2286217

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	117	113	P/P	50 - 160

* 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					1.85	
EPA 350.1 Rev. 2.0	Ammonia-N	98.4	102	100			1.87
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	93.1	94.9			1.21
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	99.6	98.2			1.25
EPA 365.1 Rev. 2.0	Total-P	103	105	105			0.148
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.7	97.0	98.2			1.03
EPA 8321B	2,4-D	89.0	110	95.7			9.82
	2,4,5-T	89.5	109	113			3.75
	Acesulfame K	104	150	142			5.21
	Acetaminophen	82.9	115	102			12.2
	Acetamiprid	84.3	84.1	85.6			1.74
	Afidopyropen	68.8	79.4	74.3			6.75
	AMPA	95.8	61.8	60.3			2.38
	Bentazon	88.0	58.9	62.3			5.56
	Benzovindiflupyr	75.5	95.1	89.9			5.66
	Carbamazepine	86.1	106	102			3.54
	Clothianidin	88.8	124	103			9.41
	Dinotefuran	74.6	131	115			13.2
	Diuron	80.2	85.1	80.1			4.48
	Endothall	82.9	96.3	89.5			7.33
	Fenuron	83.2	93.8	92.4			1.47
	Fluridone	89.9	106	97.7			8.48
	Glufosinate	97.0	64.7	65.4			1.06
	Glyphosate	95.6	106	107			0.379
	Hydrocodone	78.1	107	97.8			9.38
	Ibuprofen	79.0	89.6	90.7			1.29
	Imazapyr	92.9	135	93.1			15.0
	Imidacloprid	80.8	166	160			1.03
	Linuron	69.4	80.9	82.1			1.49
	Mandestrobin	77.1	95.0	94.6			0.469
	MCPP	88.2	110	114			3.81
	Naproxen	95.5	156	121			25.1
	Primidone	81.7	99.3	98.8			0.473
	Pyraclostrobin	77.9	91.2	86.4			5.36
	Sucralose	94.8	94.5	96.6			1.28
	Thiamethoxam	81.6	126	146			4.21
	Tolfenpyrad	50.2	57.4	53.8			6.37
	Triclopyr	90.1	107	110			3.04
SM 2320 B-2011	Total Alkalinity	101				2.24	
SM 4500 F-C-2011	Fluoride	100	99.9	101			0.483
SM 5310 B-2011	Organic Carbon	101	92.2	93.8			1.52

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2286211
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2286212
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2286212
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2286212
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2286212
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2286213
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2286217

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2286211
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2286211
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2286211
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2286212

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	10/27/2021			10/27/2021 15:55	Sarah A Nixon	2286211
EPA 350.1 Rev. 2.0	10/27/2021			11/04/2021 11:38	Ping Hua	2286212
EPA 351.2 Rev. 2.0	10/27/2021	11/03/2021 12:43	Benjamin T. Nordmann	11/04/2021 12:07	Alexandra J Mattheus	2286212
EPA 353.2 Rev. 2.0	10/27/2021			11/01/2021 10:48	Beverly Y. Sanders	2286212
EPA 365.1 Rev. 2.0	10/27/2021	11/02/2021 16:18	Simonne.V. Calhoun	11/04/2021 12:35	Lipi Saha	2286212
EPA 365.1 Rev. 2.0 dissolved	10/27/2021			10/27/2021 15:07	James L Waggeberby	2286213
EPA 8321B	10/27/2021	10/29/2021 10:35	Mohammad Ghaffari	10/29/2021 12:11	Mohammad Ghaffari	2286217
	10/27/2021	10/29/2021 10:35	Mohammad Ghaffari	10/29/2021 13:35	Manjita Shrestha	2286217
	10/27/2021	10/29/2021 14:00	Hoor Shaik	11/03/2021 07:03	Juyoung Kim	2286217
	10/27/2021	10/29/2021 14:00	Hoor Shaik	11/04/2021 17:37	Juyoung Kim	2286217
SM 2320 B-2011	10/27/2021			11/02/2021 21:29	Dale L. Simmons	2286211
SM 2540 D-2011	10/27/2021			11/01/2021 14:21	Yijie Li	2286211
SM 4500 F-C-2011	10/27/2021			11/02/2021 21:29	Dale L. Simmons	2286211
SM 5310 B-2011	10/27/2021			11/04/2021 05:00	Khloe J Berg	2286212