

Chemical Analysis Report

SE-DIST-2021-02-11-01

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

Event Description: **SMP - Sebastian Monthly Micro 1**
Request ID: **RQ-2021-01-25-47**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Drew Liddick

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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 08-MAR-2021 12:02



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: South Prong Sebastian @ Park Dock

Collection Date/Time: 02/10/2021 10:50

Field ID: G5SE0079

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2224939	EPA 180.1 Rev. 2.0	Turbidity	2.3	A	NTU	P393681	
	EPA 300.0 Rev. 2.1	Bromide	18		mg Br/L	P394011	
	SM 2320 B-2011	Total Alkalinity	134		mg CaCO3/L	P393786	
	SM 2540 C-2011	TDS	8.56E+03		mg/L	P394109	
	SM 2540 D-2011	TSS	3	I	mg/L	P394093	
	SM 4500 F-C-2011	Fluoride	0.54		mg F/L	P394165	
2224940	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P394071	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.47		mg N/L	P394267	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.028		mg N/L	P394336	
	EPA 365.1 Rev. 2.0	Total-P	0.066		mg P/L	P394258	
	SM 5310 B-2011	Organic Carbon	8.3	A	mg C/L	P394395	
2224941	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.030		mg P/L	P393678	
2224945	EPA 8321B	2,4-D	0.0086		ug/L	P393672	
		Acesulfame K	0.10	UJ	ug/L	P393743	MS
		AMPA	0.10	UJ	ug/L	P393743	MS, SUR
		Sucralose	0.32		ug/L	P393743	
		Acetaminophen**	0.075		ug/L	P393672	RPD
		Endothall	0.25	U	ug/L	P393743	
		Acetamiprid**	0.0020	U	ug/L	P393672	RPD
		Glufosinate	0.10	UJ	ug/L	P393743	MS, SUR
		Glyphosate	0.10	UJ	ug/L	P393743	MS, SUR
		Afidopyropen**	0.0020	U	ug/L	P393672	RPD
		Bentazon	0.018		ug/L	P393672	
		Benzovindiflupyr**	0.0020	U	ug/L	P393672	
		Carbamazepine**	0.0013	I	ug/L	P393672	
		Clothianidin**	0.0020	U	ug/L	P393672	
		Dinotefuran**	0.0020	U	ug/L	P393672	
		Diuron	0.0020	U	ug/L	P393672	
		Fenuron	0.016	U	ug/L	P393672	
		Fluridone**	0.0011	I	ug/L	P393672	
		Imazapyr**	0.037		ug/L	P393672	
		Hydrocodone**	0.0020	U	ug/L	P393672	
		Ibuprofen**	0.020	U	ug/L	P393672	
		Imidacloprid	0.0053	I	ug/L	P393672	
		Linuron	0.0040	U	ug/L	P393672	
		Mandestrobin**	0.0020	U	ug/L	P393672	
		MCPP	0.0030	I	ug/L	P393672	
		Naproxen**	0.0080	U	ug/L	P393672	
		Primidone**	0.0040	U	ug/L	P393672	RPD
		Pyraclostrobin**	0.0020	U	ug/L	P393672	
		Thiamethoxam**	0.0020	U	ug/L	P393672	
		Tolfenpyrad**	0.0020	U	ug/L	P393672	
		Triclopyr**	0.0040	U	ug/L	P393672	

Field ID: G5SE0079

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: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.
EPA 8321B: Results confirmed in sample duplicate. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P393681

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P394011

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P394071

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P394267

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P394336

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P394258

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P393678

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

Reference Method: EPA 8321B
 Batch ID: P393672

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P393672

Component	Result	Code	Units
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	0.0020	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: EPA 8321B

Batch ID: P393743

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: SM 2320 B-2011

Batch ID: P393786

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

Reference Method: SM 2540 C-2011

Batch ID: P394109

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P394093

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011

Batch ID: P394165

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: P394395

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: P394011

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394071

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P394267

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: P394336

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: P394258

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: P393678

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.5		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P393672

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	95.6		P	30 - 160
Acetaminophen	148		P	30 - 160
Acetamiprid	86.9		P	30 - 160
Afidopyropen	72.0		P	30 - 160
Bentazon	89.3		P	30 - 160
Benzovindiflupyr	76.9		P	30 - 160
Carbamazepine	106		P	30 - 160
Clothianidin	90.2		P	30 - 160
Dinotefuran	82.1		P	30 - 160
Diuron	63.8		P	30 - 160
Fenuron	97.7		P	30 - 160
Fluridone	82.4		P	30 - 160
Hydrocodone	89.6		P	30 - 160
Ibuprofen	86.6		P	30 - 160
Imazapyr	97.9		P	30 - 160
Imidacloprid	93.7		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P393672

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Linuron	69.0		P	30 - 160
Mandestrobin	81.5		P	30 - 160
MCPP	97.0		P	30 - 160
Naproxen	52.5		P	30 - 160
Primidone	88.8		P	30 - 160
Pyraclostrobin	75.5		P	30 - 160
Thiamethoxam	83.4		P	30 - 160
Tolfenpyrad	45.0		P	30 - 160
Triclopyr	86.2		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P393743

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	96.6		P	40 - 150
AMPA	115		P	40 - 150
Endothall	143		P	40 - 150
Glufosinate	127		P	40 - 150
Glyphosate	114		P	40 - 140
Sucralose	98.0		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P393786

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.1		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P394165

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.0		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P394395

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.3		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394011

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224351	Bromide	95.5	96.8	P/P	90 - 110
2225313	Bromide	97.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394071

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224851	Ammonia-N	96.6	97.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P394267

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2227423	Kjeldahl Nitrogen	108	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P394336

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2227450	NO2NO3-N	99.2	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P394258

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2226947	Total-P	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P393678

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224941	O-Phosphate-P	97.8	97.6	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P393672

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224683	2,4-D	74.4	75.3	P/P	30 - 160
2224683	Acetaminophen	148	104	P/P	30 - 160
2224683	Acetamiprid	57.5	96.6	P/P	30 - 160
2224683	Afidopyropen	45.1	79.1	P/P	30 - 160
2224683	Benzovindiflupyr	65.1	70.2	P/P	30 - 160
2224683	Carbamazepine	69.5	76.1	P/P	30 - 160
2224683	Clothianidin	81.6	86.7	P/P	30 - 160
2224683	Dinotefuran	86.3	92.7	P/P	30 - 160
2224683	Diuron	46.5	47.6	P/P	30 - 160
2224683	Fenuron	61.5	68.8	P/P	30 - 160
2224683	Hydrocodone	84.6	88.6	P/P	30 - 160
2224683	Ibuprofen	73.9	74.2	P/P	30 - 160
2224683	Imidacloprid	122	129	P/P	30 - 160
2224683	Linuron	60.6	57.8	P/P	30 - 160
2224683	Mandestrobin	69.3	75.2	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P393672

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224683	MCP	74.9	85.5	P/P	30 - 160
2224683	Naproxen	70.9	53.6	P/P	30 - 160
2224683	Primidone	62.4	88.5	P/P	30 - 160
2224683	Pyraclostrobin	72.7	78.4	P/P	30 - 160
2224683	Thiamethoxam	97.4	110	P/P	30 - 160
2224683	Tolfenpyrad	41.7	44.4	P/P	30 - 160
2224683	Triclopyr	77.0	87.4	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P393743

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224945	Acesulfame K	5.72	5.08	F/F	40 - 150
2224945	AMPA	12.2	11.8	F/F	40 - 150
2224945	Endothall	139	139	P/P	40 - 150
2224945	Glufosinate	9.96	9.16	F/F	40 - 150
2224945	Glyphosate	493	517	F/F	40 - 140
2224945	Sucralose	81.2	92.5	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P394165

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224939	Fluoride	96.1	97.6	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P394395

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224940	Organic Carbon	91.4		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P393681

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224939	Turbidity	2.59	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394011

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224351	Bromide	0.855	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394071

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224851	Ammonia-N	0.617	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P394267

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2227423	Kjeldahl Nitrogen	3.18	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P394336

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2227450	NO2NO3-N	0.454	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P394258

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2226947	Total-P	0.568	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P393678

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224941	O-Phosphate-P	0.157	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P393672

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224683	2,4-D	1.12	Spike	P	0 - 30
2224683	Acetaminophen	35.1	Spike	F	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P393672

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224683	Acetamiprid	50.8	Spike	F	0 - 30
2224683	Afidopyropen	54.7	Spike	F	0 - 30
2224683	Bentazon	0.00733	Spike	P	0 - 30
2224683	Benzovindiflupyr	7.60	Spike	P	0 - 30
2224683	Carbamazepine	8.36	Spike	P	0 - 30
2224683	Clothianidin	6.03	Spike	P	0 - 30
2224683	Dinotefuran	7.16	Spike	P	0 - 30
2224683	Diuron	2.41	Spike	P	0 - 30
2224683	Fenuron	11.3	Spike	P	0 - 30
2224683	Fluridone	6.25	Spike	P	0 - 30
2224683	Hydrocodone	4.64	Spike	P	0 - 30
2224683	Ibuprofen	0.424	Spike	P	0 - 30
2224683	Imazapyr	13.5	Spike	P	0 - 30
2224683	Imidacloprid	5.25	Spike	P	0 - 30
2224683	Linuron	4.72	Spike	P	0 - 30
2224683	Mandestrobin	8.17	Spike	P	0 - 30
2224683	MCPP	13.3	Spike	P	0 - 30
2224683	Naproxen	27.9	Spike	P	0 - 30
2224683	Primidone	34.5	Spike	F	0 - 30
2224683	Pyraclostrobin	7.57	Spike	P	0 - 30
2224683	Thiamethoxam	11.8	Spike	P	0 - 30
2224683	Tolfenpyrad	6.33	Spike	P	0 - 30
2224683	Triclopyr	12.7	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P393743

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224945	Acesulfame K	11.9	Spike	P	0 - 30
2224945	AMPA	3.66	Spike	P	0 - 30
2224945	Endothall	0.576	Spike	P	0 - 30
2224945	Glufosinate	8.37	Spike	P	0 - 30
2224945	Glyphosate	4.72	Spike	P	0 - 30
2224945	Sucralose	11.3	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P393786

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224849	Total Alkalinity	1.47	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P394109

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224986	TDS	2.35	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P394165

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224939	Fluoride	0.891	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P394395

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224940	Organic Carbon	1.84	Sample	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2224945

Field Sample ID: G5SE0079

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	89.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	112	P	30 - 160
EPA 8321B	Carbamazepine-d10	68.8	P	30 - 160
EPA 8321B	Diuron-d6	60.5	P	30 - 160
EPA 8321B	Endothall-d6	127	P	30 - 160
EPA 8321B	Endothall-d6	127	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	418	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	418	F	30 - 160
EPA 8321B	Ibuprofen-d3	80.2	P	30 - 160
EPA 8321B	Primidone-d5	97.1	P	30 - 160
EPA 8321B	Sucralose-d6	92.7	P	30 - 160
EPA 8321B	Sucralose-d6	92.7	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A103541

Included Lab Sample IDs: 2224941

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A103542

Included Lab Sample IDs: 2224939

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

Reference Method: EPA 8321B

Run ID: A103561

Included Lab Sample IDs: 2224945

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	86.4	98.8	P/P	50 - 150
Acetaminophen	112	107	P/P	60 - 160
Acetamiprid	108	107	P/P	50 - 150
Afidopyropen	111	99.3	P/P	50 - 150
Bentazon	139	139	P/P	50 - 160
Benzovindiflupyr	98.3	107	P/P	50 - 160
Carbamazepine	117	114	P/P	60 - 150
Clothianidin	95.4	94.3	P/P	60 - 150
Dinotefuran	102	102	P/P	50 - 150
Diuron	105	112	P/P	60 - 160
Fenuron	103	104	P/P	60 - 150
Fluridone	115	128	P/P	60 - 160
Hydrocodone	107	105	P/P	60 - 150
Ibuprofen	81.7	131	P/P	50 - 160
Imazapyr	118	88.9	P/P	50 - 160
Imidacloprid	99.8	101	P/P	60 - 150
Linuron	107	110	P/P	60 - 150
Mandestrobin	104	112	P/P	50 - 150
MCPP	107	109	P/P	50 - 150
Naproxen	87.5	77.2	P/P	50 - 160
Primidone	92.0	96.4	P/P	60 - 150
Pyraclostrobin	105	108	P/P	60 - 150
Thiamethoxam	95.9	102	P/P	50 - 150
Tolfenpyrad	101	100	P/P	60 - 150
Triclopyr	106	108	P/P	50 - 150

Reference Method: SM 2320 B-2011

Run ID: A103594

Included Lab Sample IDs: 2224939

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	94.1	96.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A103625
Included Lab Sample IDs: 2224945

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	83.2	74.4	P/P	60 - 160
AMPA	113	103	P/P	40 - 160
Endothall	134	147	P/P	60 - 160
Glufosinate	104	117	P/P	60 - 200
Glyphosate	133	113	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A103647
Included Lab Sample IDs: 2224945

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	98.2	101	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A103651
Included Lab Sample IDs: 2224939

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A103712
Included Lab Sample IDs: 2224940

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.1	97.6	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A103744
Included Lab Sample IDs: 2224939

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	96.5	99.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A103826
Included Lab Sample IDs: 2224940

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A103830
Included Lab Sample IDs: 2224940

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	99.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A103834

Included Lab Sample IDs: 2224940

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	101	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A103849

Included Lab Sample IDs: 2224940

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.4	94.4	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 SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					2.59	
EPA 300.0 Rev. 2.1	Bromide	99.3	95.5	96.8	97.9		0.855
EPA 350.1 Rev. 2.0	Ammonia-N	97.8	96.6	97.4			0.617
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	108	104			3.18
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	98.5	99.2	98.6			0.454
EPA 365.1 Rev. 2.0	Total-P	105	104	104			0.568
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.5	97.8	97.6			0.157
EPA 8321B	2,4-D	95.6	74.4	75.3			1.12
	Acesulfame K	96.6	5.72	5.08			11.9
	Acetaminophen	148	148	104			35.1
	Acetamiprid	86.9	57.5	96.6			50.8
	Afidopyropen	72.0	45.1	79.1			54.7
	AMPA	115	12.2	11.8			3.66
	Bentazon	89.3					0.0073
	Benzovindiflupyr	76.9	65.1	70.2			7.60
	Carbamazepine	106	69.5	76.1			8.36
	Clothianidin	90.2	81.6	86.7			6.03
	Dinotefuran	82.1	86.3	92.7			7.16
	Diuron	63.8	46.5	47.6			2.41
	Endothall	143	139	139			0.576
	Fenuron	97.7	61.5	68.8			11.3
	Fluridone	82.4					6.25
	Glufosinate	127	9.96	9.16			8.37
	Glyphosate	114	493	517			4.72
	Hydrocodone	89.6	84.6	88.6			4.64
	Ibuprofen	86.6	73.9	74.2			0.424
	Imazapyr	97.9					13.5
	Imidacloprid	93.7	122	129			5.25
	Linuron	69.0	60.6	57.8			4.72
	Mandestrobin	81.5	69.3	75.2			8.17
	MCPP	97.0	74.9	85.5			13.3
	Naproxen	52.5	70.9	53.6			27.9
	Primidone	88.8	62.4	88.5			34.5
	Pyraclostrobin	75.5	72.7	78.4			7.57
	Sucralose	98.0	81.2	92.5			11.3
	Thiamethoxam	83.4	97.4	110			11.8
	Tolfenpyrad	45.0	41.7	44.4			6.33
	Triclopyr	86.2	77.0	87.4			12.7
SM 2320 B-2011	Total Alkalinity	98.1				1.47	
SM 2540 C-2011	TDS					2.35	
SM 4500 F-C-2011	Fluoride	97.0	96.1	97.6			0.891
SM 5310 B-2011	Organic Carbon	97.3	91.4			1.84	

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2224939
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2224939
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2224940
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2224940
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2224940
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2224940

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2224941
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2224945
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2224945
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2224939
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2224939
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2224939
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2224939
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2224940

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	02/11/2021			02/11/2021 15:08	Yen Ta	2224939
EPA 300.0 Rev. 2.1	02/11/2021			02/18/2021 18:46	Lipi Saha	2224939
EPA 350.1 Rev. 2.0	02/11/2021			02/22/2021 19:04	Ping Hua	2224940
EPA 351.2 Rev. 2.0	02/11/2021	02/26/2021 12:17	Yen Ta	03/01/2021 15:56	Virginia P. Brown	2224940
EPA 353.2 Rev. 2.0	02/11/2021			03/02/2021 08:35	Beverly Y. Sanders	2224940
EPA 365.1 Rev. 2.0	02/11/2021	02/26/2021 11:49	Shengyu Wang	03/01/2021 14:48	Shengyu Wang	2224940
EPA 365.1 Rev. 2.0 dissolved	02/11/2021			02/11/2021 15:26	Blanca Fach	2224941
EPA 8321B	02/11/2021	02/12/2021 13:00	Hoor Shaik	02/13/2021 17:33	Juyoung Kim	2224945
	02/11/2021	02/15/2021 10:00	Rebecca Ware	02/15/2021 12:05	Rebecca Ware	2224945
	02/11/2021	02/15/2021 10:00	Rebecca Ware	02/18/2021 01:57	Rebecca Ware	2224945
SM 2320 B-2011	02/11/2021			02/12/2021 15:55	Dale L. Simmons	2224939
SM 2540 C-2011	02/11/2021			02/15/2021 14:26	Yijie Li	2224939
SM 2540 D-2011	02/11/2021			02/15/2021 14:26	Yijie Li	2224939
SM 4500 F-C-2011	02/11/2021			02/24/2021 05:15	Dale L. Simmons	2224939
SM 5310 B-2011	02/11/2021			02/26/2021 03:06	Madeline Gruver	2224940