

Chemical Analysis Report

SO-DIST-2021-03-24-04

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

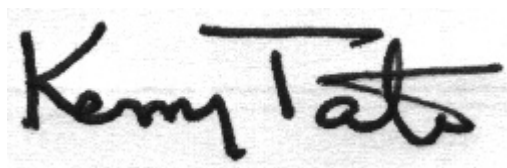
Event Description: **2021 SMP: Lee County Sampling**
Request ID: **RQ-2021-03-08-44**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
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FLDEP South District Office
2295 Victoria Ave. Suite 364
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 13-APR-2021 11:38

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical group are included in this report: 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: 47A-4GR

Collection Date/Time: 03/23/2021 09:37

Field ID: 47A-4GR

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2233401	EPA 8321B	2,4-D	0.0067	I	ug/L	P395318	
		Acesulfame K	0.10	I	ug/L	P395510	MS
		AMPA	1.0	U	ug/L	P395510	
		2,4,5-T	0.0040	U	ug/L	P395318	
		Sucralose	0.80		ug/L	P395510	
		Acetaminophen	0.0080	UJ	ug/L	P395318	LCS
		Endothall	0.25	U	ug/L	P395510	
		Acetamiprid	0.0020	U	ug/L	P395318	
		Glufosinate	1.0	U	ug/L	P395510	
		Glyphosate	1.0	U	ug/L	P395510	
		Afidopyropen	0.0020	U	ug/L	P395318	
		Bentazon	0.17		ug/L	P395318	
		Benzovindiflupyr	0.0020	U	ug/L	P395318	
		Carbamazepine	0.0014	I	ug/L	P395318	
		Clothianidin	0.0020	U	ug/L	P395318	
		Dinotefuran	0.0020	U	ug/L	P395318	
		Diuron	0.0020	U	ug/L	P395318	
		Fenuron	0.016	U	ug/L	P395318	
		Fluridone	0.69		ug/L	P395318	
		Imazapyr	0.24		ug/L	P395318	
		Hydrocodone	0.0020	U	ug/L	P395318	
		Ibuprofen	0.020	U	ug/L	P395318	
		Imidacloprid	0.0020	U	ug/L	P395318	
		Linuron	0.0040	U	ug/L	P395318	
		Mandestrobin	0.0020	U	ug/L	P395318	
		MCPP	0.0020	U	ug/L	P395318	
		Naproxen	0.0080	U	ug/L	P395318	
		Primidone	0.0041	I	ug/L	P395318	
		Pyraclostrobin	0.0020	U	ug/L	P395318	
		Thiamethoxam	0.0020	U	ug/L	P395318	
		Tolfenpyrad	0.0020	U	ug/L	P395318	
		Triclopyr	0.0040	U	ug/L	P395318	

Ref. Method and Comment:

EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

EPA 8321B: MDL for some parameters elevated due to matrix interference.

Sample Location: 47A-15GR

Collection Date/Time: 03/23/2021 09:16

Field ID: 47A-15GR

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2233402	EPA 8321B	2,4-D	0.019		ug/L	P395318	
		Acesulfame K	0.20	I	ug/L	P395510	MS
		2,4,5-T	0.0040	U	ug/L	P395318	
		AMPA	0.13	I	ug/L	P395510	
		Sucralose	0.92		ug/L	P395510	
		Acetaminophen	0.0080	UJ	ug/L	P395318	LCS
		Acetamiprid	0.0020	U	ug/L	P395318	
		Endothall	0.25	U	ug/L	P395510	
		Glufosinate	0.10	U	ug/L	P395510	
		Glyphosate	0.10	U	ug/L	P395510	
		Afidopyropen	0.0020	U	ug/L	P395318	
		Bentazon	0.22		ug/L	P395318	
		Benzovindiflupyr	0.0020	U	ug/L	P395318	
		Carbamazepine	0.0014	I	ug/L	P395318	
		Clothianidin	0.0021	I	ug/L	P395318	
		Dinotefuran	0.0020	U	ug/L	P395318	
		Diuron	0.0020	U	ug/L	P395318	
		Fenuron	0.016	U	ug/L	P395318	
		Fluridone	0.89		ug/L	P395318	
		Imazapyr	0.42		ug/L	P395318	
		Hydrocodone	0.0020	U	ug/L	P395318	
		Ibuprofen	0.020	U	ug/L	P395318	
		Imidacloprid	0.0020	U	ug/L	P395318	
		Linuron	0.0040	U	ug/L	P395318	
		Mandestrobin	0.0020	U	ug/L	P395318	
		MCPP	0.0020	U	ug/L	P395318	
		Naproxen	0.0080	U	ug/L	P395318	
		Primidone	0.0040	U	ug/L	P395318	
		Pyraclostrobin	0.0020	U	ug/L	P395318	
		Thiamethoxam	0.0020	U	ug/L	P395318	
		Tolfenpyrad	0.0020	U	ug/L	P395318	
		Triclopyr	0.0040	U	ug/L	P395318	

Ref. Method and Comment:

EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: 1MPRGR51

Collection Date/Time: 03/23/2021 09:25

Field ID: 1MPRGR51

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2233403	EPA 8321B	2,4-D	0.0020	U	ug/L	P395318	
		Acesulfame K	0.12	I	ug/L	P395510	MS
		2,4,5-T	0.0040	U	ug/L	P395318	
		AMPA	0.10	U	ug/L	P395510	
		Sucralose	0.084		ug/L	P395510	
		Acetaminophen	0.0080	UJ	ug/L	P395318	LCS
		Acetamiprid	0.0020	U	ug/L	P395318	
		Endothall	0.25	U	ug/L	P395510	
		Glufosinate	0.10	U	ug/L	P395510	
		Glyphosate	0.10	U	ug/L	P395510	
		Afidopyropen	0.0020	U	ug/L	P395318	
		Bentazon	0.16		ug/L	P395318	
		Benzovindiflupyr	0.0020	U	ug/L	P395318	
		Carbamazepine	8.0E-04	U	ug/L	P395318	
		Clothianidin	0.0020	U	ug/L	P395318	
		Dinotefuran	0.0020	U	ug/L	P395318	
		Diuron	0.0020	U	ug/L	P395318	
		Fenuron	0.016	U	ug/L	P395318	
		Fluridone	0.013		ug/L	P395318	
		Imazapyr	0.24		ug/L	P395318	
		Hydrocodone	0.0020	U	ug/L	P395318	
		Ibuprofen	0.020	U	ug/L	P395318	
		Imidacloprid	0.0020	U	ug/L	P395318	
		Linuron	0.0040	U	ug/L	P395318	
		Mandestrobin	0.0020	U	ug/L	P395318	
		MCPP	0.0020	U	ug/L	P395318	
		Naproxen	0.0080	U	ug/L	P395318	
		Primidone	0.0040	U	ug/L	P395318	
		Pyraclostrobin	0.0020	U	ug/L	P395318	
		Thiamethoxam	0.0020	U	ug/L	P395318	
		Tolfenpyrad	0.0020	U	ug/L	P395318	
		Triclopyr	0.0040	U	ug/L	P395318	

Ref. Method and Comment:

EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: 1MPRGR41

Collection Date/Time: 03/23/2021 09:41

Field ID: 1MPRGR41

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2233404	EPA 8321B	2,4-D	0.0020	U	ug/L	P395318	
		Acesulfame K	0.11	I	ug/L	P395510	MS
		AMPA	1.0	U	ug/L	P395510	
		2,4,5-T	0.0040	U	ug/L	P395318	
		Sucralose	0.15		ug/L	P395510	
		Acetaminophen	0.0080	UJ	ug/L	P395318	LCS
		Endothall	0.25	U	ug/L	P395510	
		Acetamiprid	0.0020	U	ug/L	P395318	
		Glufosinate	1.0	U	ug/L	P395510	
		Glyphosate	1.0	U	ug/L	P395510	
		Afidopyropen	0.0020	U	ug/L	P395318	
		Bentazon	0.17		ug/L	P395318	
		Benzovindiflupyr	0.0020	U	ug/L	P395318	
		Carbamazepine	8.0E-04	U	ug/L	P395318	
		Clothianidin	0.0020	U	ug/L	P395318	
		Dinotefuran	0.0020	U	ug/L	P395318	
		Diuron	0.0020	U	ug/L	P395318	
		Fenuron	0.016	U	ug/L	P395318	
		Fluridone	0.034		ug/L	P395318	
		Imazapyr	0.21		ug/L	P395318	
		Hydrocodone	0.0020	U	ug/L	P395318	
		Ibuprofen	0.020	U	ug/L	P395318	
		Imidacloprid	0.0021	I	ug/L	P395318	
		Linuron	0.0040	U	ug/L	P395318	
		Mandestrobin	0.0020	U	ug/L	P395318	
		MCPP	0.0020	U	ug/L	P395318	
		Naproxen	0.0080	U	ug/L	P395318	
		Primidone	0.0040	U	ug/L	P395318	
		Pyraclostrobin	0.0020	U	ug/L	P395318	
		Thiamethoxam	0.0020	U	ug/L	P395318	
		Tolfenpyrad	0.0020	U	ug/L	P395318	
		Triclopyr	0.0040	U	ug/L	P395318	

Ref. Method and Comment:

EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

EPA 8321B: MDL for some parameters elevated due to matrix interference.

Sample Location: 1MPRGR30

Collection Date/Time: 03/23/2021 10:01

Field ID: 1MPRGR30

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2233405	EPA 8321B	2,4-D	0.0020	U	ug/L	P395318	
		Acesulfame K	0.10	U	ug/L	P395510	MS
		AMPA	1.0	U	ug/L	P395510	
		2,4,5-T	0.0040	U	ug/L	P395318	
		Sucralose	0.13		ug/L	P395510	
		Acetaminophen	0.0080	UJ	ug/L	P395318	LCS
		Endothall	0.25	U	ug/L	P395510	
		Acetamiprid	0.0020	U	ug/L	P395318	
		Glufosinate	1.0	U	ug/L	P395510	
		Glyphosate	1.0	U	ug/L	P395510	
		Afidopyropen	0.0020	U	ug/L	P395318	
		Bentazon	0.12		ug/L	P395318	
		Benzovindiflupyr	0.0020	U	ug/L	P395318	
		Carbamazepine	8.0E-04	U	ug/L	P395318	
		Clothianidin	0.0020	U	ug/L	P395318	
		Dinotefuran	0.0020	U	ug/L	P395318	
		Diuron	0.0020	U	ug/L	P395318	
		Fenuron	0.016	U	ug/L	P395318	
		Fluridone	0.013		ug/L	P395318	
		Imazapyr	0.18		ug/L	P395318	
		Hydrocodone	0.0020	U	ug/L	P395318	
		Ibuprofen	0.020	U	ug/L	P395318	
		Imidacloprid	0.0020	U	ug/L	P395318	
		Linuron	0.0040	U	ug/L	P395318	
		Mandestrobin	0.0020	U	ug/L	P395318	
		MCPP	0.0020	U	ug/L	P395318	
		Naproxen	0.0080	U	ug/L	P395318	
		Primidone	0.0040	U	ug/L	P395318	
		Pyraclostrobin	0.0020	U	ug/L	P395318	
		Thiamethoxam	0.0020	U	ug/L	P395318	
		Tolfenpyrad	0.0020	U	ug/L	P395318	
		Triclopyr	0.0040	U	ug/L	P395318	

Ref. Method and Comment:

EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

EPA 8321B: MDL for some parameters elevated due to matrix interference.

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P395318

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.030	I	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
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: P395510

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P395318

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	126		P	30 - 160
2,4,5-T	96.7		P	30 - 160
Acetaminophen	203		F	30 - 160
Acetamiprid	83.0		P	30 - 160
Afidopyropen	70.3		P	30 - 160
Bentazon	62.6		P	30 - 160
Benzovindiflupyr	86.8		P	30 - 160
Carbamazepine	91.1		P	30 - 160
Clothianidin	93.6		P	30 - 160
Dinotefuran	82.0		P	30 - 160
Diuron	68.1		P	30 - 160
Fenuron	87.9		P	30 - 160
Fluridone	79.5		P	30 - 160
Hydrocodone	91.3		P	30 - 160
Ibuprofen	80.2		P	30 - 160
Imazapyr	78.9		P	30 - 160
Imidacloprid	103		P	30 - 160
Linuron	67.1		P	30 - 160
Mandestrobin	85.2		P	30 - 160
MCPP	110		P	30 - 160
Naproxen	62.8		P	30 - 160
Primidone	91.1		P	30 - 160
Pyraclostrobin	78.8		P	30 - 160
Thiamethoxam	99.4		P	30 - 160
Tolfenpyrad	44.4		P	30 - 160
Triclopyr	111		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P395510

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	139		P	40 - 150
AMPA	115		P	40 - 150
Endothall	89.0		P	40 - 150
Glufosinate	101		P	40 - 150
Glyphosate	80.1		P	40 - 140
Sucralose	101		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P395318

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2232693	2,4-D	112	98.8	P/P	30 - 160
2232693	2,4,5-T	104	97.7	P/P	30 - 160
2232693	Acetaminophen	108	98.9	P/P	30 - 160
2232693	Acetamiprid	93.9	75.5	P/P	30 - 160
2232693	Afidopyropen	80.5	64.6	P/P	30 - 160
2232693	Bentazon	36.4	37.6	P/P	30 - 160
2232693	Benzovindiflupyr	91.8	81.8	P/P	30 - 160
2232693	Carbamazepine	75.9	74.6	P/P	30 - 160
2232693	Clothianidin	83.2	96.8	P/P	30 - 160
2232693	Dinotefuran	120	113	P/P	30 - 160
2232693	Diuron	53.1	48.9	P/P	30 - 160
2232693	Fenuron	67.5	65.6	P/P	30 - 160
2232693	Fluridone	84.5	68.2	P/P	30 - 160
2232693	Hydrocodone	99.5	96.2	P/P	30 - 160
2232693	Ibuprofen	82.8	71.7	P/P	30 - 160
2232693	Imazapyr	93.7	83.8	P/P	30 - 160
2232693	Imidacloprid	152	142	P/P	30 - 160
2232693	Linuron	61.9	56.1	P/P	30 - 160
2232693	Mandestrobin	91.4	82.9	P/P	30 - 160
2232693	MCCP	103	94.5	P/P	30 - 160
2232693	Naproxen	58.5	48.2	P/P	30 - 160
2232693	Primidone	102	97.6	P/P	30 - 160
2232693	Pyraclostrobin	86.9	76.6	P/P	30 - 160
2232693	Thiamethoxam	135	127	P/P	30 - 160
2232693	Tolfenpyrad	55.5	55.3	P/P	30 - 160
2232693	Triclopyr	117	107	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P395510

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233336	Acesulfame K	198	211	F/F	40 - 150
2233336	AMPA	114	136	P/P	40 - 150
2233336	Endothall	80.8	77.0	P/P	40 - 150
2233336	Glufosinate	104	103	P/P	40 - 150
2233336	Glyphosate	63.7	67.4	P/P	40 - 140
2233336	Sucralose	97.9	99.4	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P395318

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2232693	2,4-D	12.1	Spike	P	0 - 30
2232693	2,4,5-T	5.77	Spike	P	0 - 30
2232693	Acetaminophen	8.43	Spike	P	0 - 30
2232693	Acetamiprid	21.7	Spike	P	0 - 30
2232693	Afidopyropen	21.8	Spike	P	0 - 30
2232693	Bentazon	3.25	Spike	P	0 - 30
2232693	Benzovindiflupyr	11.5	Spike	P	0 - 30
2232693	Carbamazepine	1.75	Spike	P	0 - 30
2232693	Clothianidin	15.1	Spike	P	0 - 30
2232693	Dinotefuran	5.98	Spike	P	0 - 30
2232693	Diuron	8.12	Spike	P	0 - 30
2232693	Fenuron	2.80	Spike	P	0 - 30
2232693	Fluridone	21.4	Spike	P	0 - 30
2232693	Hydrocodone	3.36	Spike	P	0 - 30
2232693	Ibuprofen	14.4	Spike	P	0 - 30
2232693	Imazapyr	5.74	Spike	P	0 - 30
2232693	Imidacloprid	7.06	Spike	P	0 - 30
2232693	Linuron	9.67	Spike	P	0 - 30
2232693	Mandestrobin	9.80	Spike	P	0 - 30
2232693	MCPP	8.54	Spike	P	0 - 30
2232693	Naproxen	19.3	Spike	P	0 - 30
2232693	Primidone	4.40	Spike	P	0 - 30
2232693	Pyraclostrobin	12.6	Spike	P	0 - 30
2232693	Thiamethoxam	5.64	Spike	P	0 - 30
2232693	Tolfenpyrad	0.337	Spike	P	0 - 30
2232693	Triclopyr	8.82	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P395510

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233336	Acesulfame K	6.12	Spike	P	0 - 30
2233336	AMPA	17.4	Spike	P	0 - 30
2233336	Endothall	4.83	Spike	P	0 - 30
2233336	Glufosinate	0.584	Spike	P	0 - 30
2233336	Glyphosate	5.70	Spike	P	0 - 30
2233336	Sucralose	1.49	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2233401
Field Sample ID: 47A-4GR

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	111	P	30 - 160
EPA 8321B	Acetaminophen-d4	99.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	84.5	P	30 - 160
EPA 8321B	Diuron-d6	71.0	P	30 - 160
EPA 8321B	Endothall-d6	101	P	40 - 160
EPA 8321B	Endothall-d6	101	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	152	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	152	P	40 - 160
EPA 8321B	Ibuprofen-d3	78.6	P	30 - 160
EPA 8321B	Primidone-d5	110	P	30 - 160
EPA 8321B	Sucralose-d6	108	P	30 - 160
EPA 8321B	Sucralose-d6	108	P	30 - 160

Lab Sample ID: 2233402
Field Sample ID: 47A-15GR

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	121	P	30 - 160
EPA 8321B	Acetaminophen-d4	94.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	83.4	P	30 - 160
EPA 8321B	Diuron-d6	67.1	P	30 - 160
EPA 8321B	Endothall-d6	116	P	40 - 160
EPA 8321B	Endothall-d6	116	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	59.3	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	59.3	P	40 - 160
EPA 8321B	Ibuprofen-d3	80.8	P	30 - 160
EPA 8321B	Primidone-d5	103	P	30 - 160
EPA 8321B	Sucralose-d6	111	P	30 - 160
EPA 8321B	Sucralose-d6	111	P	30 - 160

Lab Sample ID: 2233403
Field Sample ID: 1MPRGR51

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	98.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	96.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	75.6	P	30 - 160
EPA 8321B	Diuron-d6	60.0	P	30 - 160
EPA 8321B	Endothall-d6	133	P	40 - 160
EPA 8321B	Endothall-d6	133	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	103	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	103	P	40 - 160
EPA 8321B	Ibuprofen-d3	67.6	P	30 - 160
EPA 8321B	Primidone-d5	92.0	P	30 - 160
EPA 8321B	Sucralose-d6	114	P	30 - 160
EPA 8321B	Sucralose-d6	114	P	30 - 160

Lab Sample ID: 2233404
Field Sample ID: 1MPRGR41

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	100	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2233404

Field Sample ID: 1MPRGR41

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	97.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	79.6	P	30 - 160
EPA 8321B	Diuron-d6	62.4	P	30 - 160
EPA 8321B	Endothall-d6	115	P	40 - 160
EPA 8321B	Endothall-d6	115	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	112	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	112	P	40 - 160
EPA 8321B	Ibuprofen-d3	70.7	P	30 - 160
EPA 8321B	Primidone-d5	97.8	P	30 - 160
EPA 8321B	Sucralose-d6	111	P	30 - 160
EPA 8321B	Sucralose-d6	111	P	30 - 160

Lab Sample ID: 2233405

Field Sample ID: 1MPRGR30

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	94.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	90.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	74.5	P	30 - 160
EPA 8321B	Diuron-d6	59.8	P	30 - 160
EPA 8321B	Endothall-d6	98.3	P	40 - 160
EPA 8321B	Endothall-d6	98.3	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	151	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	151	P	40 - 160
EPA 8321B	Ibuprofen-d3	67.2	P	30 - 160
EPA 8321B	Primidone-d5	94.2	P	30 - 160
EPA 8321B	Sucralose-d6	108	P	30 - 160
EPA 8321B	Sucralose-d6	108	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A104297

Included Lab Sample IDs: 2233401, 2233402, 2233403, 2233404, 2233405

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	111	112	P/P	50 - 150
2,4-D	112	97.7	P/P	50 - 150
2,4,5-T	98.4	90.8	P/P	50 - 150
2,4,5-T	99.0	98.4	P/P	50 - 150
Acetaminophen	101	98.8	P/P	60 - 160
Acetaminophen	102	101	P/P	60 - 160
Acetamiprid	107	108	P/P	50 - 150
Acetamiprid	108	108	P/P	50 - 150
Afidopyropen	105	93.3	P/P	50 - 150
Afidopyropen	93.3	98.8	P/P	50 - 150
Bentazon	84.5	68.2	P/P	50 - 160
Benzovindiflupyr	118	112	P/P	50 - 160
Benzovindiflupyr	118	118	P/P	50 - 160
Carbamazepine	107	110	P/P	60 - 150
Carbamazepine	110	108	P/P	60 - 150
Clothianidin	112	113	P/P	60 - 150
Clothianidin	113	105	P/P	60 - 150
Dinotefuran	102	111	P/P	50 - 150
Dinotefuran	111	105	P/P	50 - 150
Diuron	107	115	P/P	60 - 160
Diuron	115	114	P/P	60 - 160
Fenuron	103	99.0	P/P	60 - 150
Fenuron	98.8	103	P/P	60 - 150
Fluridone	107	107	P/P	60 - 160
Fluridone	115	106	P/P	60 - 160
Hydrocodone	108	112	P/P	60 - 150
Hydrocodone	111	108	P/P	60 - 150
Ibuprofen	100	90.1	P/P	50 - 160
Ibuprofen	105	100	P/P	50 - 160
Imazapyr	75.7	79.3	P/P	50 - 160
Imazapyr	84.2	75.7	P/P	50 - 160
Imidacloprid	104	107	P/P	60 - 150
Imidacloprid	107	102	P/P	60 - 150
Linuron	106	102	P/P	60 - 150
Linuron	106	106	P/P	60 - 150
Mandestrobin	109	114	P/P	50 - 150
Mandestrobin	110	109	P/P	50 - 150
MCPP	103	105	P/P	50 - 150
MCPP	112	103	P/P	50 - 150
Naproxen	124	73.0	P/P	50 - 160
Naproxen	73.0	102	P/P	50 - 160
Primidone	97.0	99.5	P/P	60 - 150
Primidone	99.5	94.0	P/P	60 - 150
Pyraclostrobin	108	112	P/P	60 - 150
Pyraclostrobin	112	110	P/P	60 - 150
Thiamethoxam	111	119	P/P	50 - 150
Thiamethoxam	119	116	P/P	50 - 150
Tolfenpyrad	110	109	P/P	60 - 150
Tolfenpyrad	112	110	P/P	60 - 150
Triclopyr	103	94.1	P/P	50 - 150
Triclopyr	108	103	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A104352

Included Lab Sample IDs: 2233401, 2233402, 2233403, 2233404, 2233405

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	122	155	P/P	40 - 160
Acesulfame K	155	144	P/P	40 - 160
AMPA	115	112	P/P	40 - 160
AMPA	118	114	P/P	40 - 160
Endothall	125	99.6	P/P	40 - 160
Endothall	99.6	89.7	P/P	40 - 160
Glufosinate	120	114	P/P	40 - 160
Glufosinate	123	129	P/P	40 - 160
Glyphosate	137	120	P/P	40 - 160
Glyphosate	156	152	P/P	40 - 160

Reference Method: EPA 8321B

Run ID: A104508

Included Lab Sample IDs: 2233401, 2233402, 2233403, 2233404, 2233405

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	93.3	95.4	P/P	60 - 160
Sucralose	95.4	96.5	P/P	60 - 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		Precision SMP	MS
			LCS			
EPA 8321B	2,4-D	126	112	98.8		12.1
	2,4,5-T	96.7	104	97.7		5.77
	Acesulfame K	139	198	211		6.12
	Acetaminophen	203	108	98.9		8.43
	Acetamiprid	83.0	93.9	75.5		21.7
	Afidopyropen	70.3	80.5	64.6		21.8
	AMPA	115	114	136		17.4
	Bentazon	62.6	36.4	37.6		3.25
	Benzovindiflupyr	86.8	91.8	81.8		11.5
	Carbamazepine	91.1	75.9	74.6		1.75
	Clothianidin	93.6	83.2	96.8		15.1
	Dinotefuran	82.0	120	113		5.98
	Diuron	68.1	53.1	48.9		8.12
	Endothall	89.0	80.8	77.0		4.83
	Fenuron	87.9	67.5	65.6		2.80
	Fluridone	79.5	84.5	68.2		21.4
	Glufosinate	101	104	103		0.584
	Glyphosate	80.1	63.7	67.4		5.70
	Hydrocodone	91.3	99.5	96.2		3.36
	Ibuprofen	80.2	82.8	71.7		14.4
	Imazapyr	78.9	93.7	83.8		5.74
	Imidacloprid	103	152	142		7.06
	Linuron	67.1	61.9	56.1		9.67
	Mandestrobin	85.2	91.4	82.9		9.80
	MCPP	110	103	94.5		8.54
	Naproxen	62.8	58.5	48.2		19.3
	Primidone	91.1	102	97.6		4.40
	Pyraclostrobin	78.8	86.9	76.6		12.6
	Sucralose	101	97.9	99.4		1.49
	Thiamethoxam	99.4	135	127		5.64
	Tolfenpyrad	44.4	55.5	55.3		0.337
	Triclopyr	111	117	107		8.82

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2233401, 2233402, 2233403, 2233404, 2233405
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2233401, 2233402, 2233403, 2233404, 2233405

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	03/24/2021	03/25/2021 09:00	Hoor Shaik	03/27/2021 02:45	Juyoung Kim	2233401
	03/24/2021	03/25/2021 09:00	Hoor Shaik	03/27/2021 03:54	Juyoung Kim	2233402
	03/24/2021	03/25/2021 09:00	Hoor Shaik	03/27/2021 04:29	Juyoung Kim	2233403
	03/24/2021	03/25/2021 09:00	Hoor Shaik	03/27/2021 05:04	Juyoung Kim	2233404
	03/24/2021	03/25/2021 09:00	Hoor Shaik	03/27/2021 05:38	Juyoung Kim	2233405
	03/24/2021	03/25/2021 09:00	Hoor Shaik	03/29/2021 11:12	Juyoung Kim	2233401
	03/24/2021	03/25/2021 09:00	Hoor Shaik	03/29/2021 11:47	Juyoung Kim	2233402
	03/24/2021	03/25/2021 09:00	Hoor Shaik	03/29/2021 12:22	Juyoung Kim	2233403
	03/24/2021	03/25/2021 09:00	Hoor Shaik	03/29/2021 12:56	Juyoung Kim	2233404
	03/24/2021	03/25/2021 09:00	Hoor Shaik	03/29/2021 13:31	Juyoung Kim	2233405
	03/24/2021	03/26/2021 10:30	Rebecca Ware	03/26/2021 13:15	Rebecca Ware	2233401
	03/24/2021	03/26/2021 10:30	Rebecca Ware	03/26/2021 13:29	Rebecca Ware	2233402
	03/24/2021	03/26/2021 10:30	Rebecca Ware	03/26/2021 13:43	Rebecca Ware	2233403
	03/24/2021	03/26/2021 10:30	Rebecca Ware	03/26/2021 14:31	Rebecca Ware	2233404
	03/24/2021	03/26/2021 10:30	Rebecca Ware	03/26/2021 14:45	Rebecca Ware	2233405
	03/24/2021	03/26/2021 10:30	Rebecca Ware	03/26/2021 18:33	Rebecca Ware	2233401
	03/24/2021	03/26/2021 10:30	Rebecca Ware	03/26/2021 19:00	Rebecca Ware	2233404
	03/24/2021	03/26/2021 10:30	Rebecca Ware	03/26/2021 19:14	Rebecca Ware	2233405
	03/24/2021	03/26/2021 10:30	Rebecca Ware	04/05/2021 14:30	Rebecca Ware	2233401
	03/24/2021	03/26/2021 10:30	Rebecca Ware	04/05/2021 14:41	Rebecca Ware	2233402
	03/24/2021	03/26/2021 10:30	Rebecca Ware	04/05/2021 14:53	Rebecca Ware	2233403
	03/24/2021	03/26/2021 10:30	Rebecca Ware	04/05/2021 15:29	Rebecca Ware	2233404
	03/24/2021	03/26/2021 10:30	Rebecca Ware	04/05/2021 15:41	Rebecca Ware	2233405