Chemical Analysis Report

SO-DIST-2021-05-27-01

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-2021-05-17-74**
Customer: **SO-DIST**
Project ID: **SMP**

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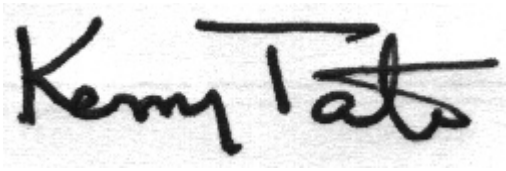
Date Certified: 04-JUN-2021 11:20



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: IMPRGR51 **Collection Date/Time: 05/26/2021 08:30**

Field ID: IMPRGR51 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2250637	EPA 8321B	Acesulfame K	0.10	U	ug/L	P398724	
		2,4-D	0.0028	I	ug/L	P398813	
		AMPA	1.0	U	ug/L	P398724	
		2,4,5-T	0.0040	U	ug/L	P398813	
		Sucralose	0.078		ug/L	P398724	
		Acetaminophen	0.0080	U	ug/L	P398813	RPD
		Endothall	0.25	U	ug/L	P398724	
		Acetamiprid	0.0020	U	ug/L	P398813	
		Glufosinate	1.0	U	ug/L	P398724	
		Glyphosate	1.0	U	ug/L	P398724	
		Afidopyropen	0.0020	U	ug/L	P398813	
		Bentazon	0.35		ug/L	P398813	
		Benzovindiflupyr	0.0020	U	ug/L	P398813	
		Carbamazepine	8.8E-04	I	ug/L	P398813	
		Clothianidin	0.0020	U	ug/L	P398813	
		Dinotefuran	0.0020	U	ug/L	P398813	
		Diuron	0.0020	U	ug/L	P398813	
		Fenuron	0.019	I	ug/L	P398813	
		Fluridone	0.013		ug/L	P398813	
		Imazapyr	0.24		ug/L	P398813	
		Hydrocodone	0.0020	U	ug/L	P398813	
		Ibuprofen	0.020	U	ug/L	P398813	
		Imidacloprid	0.0053	I	ug/L	P398813	
		Linuron	0.0040	U	ug/L	P398813	
		Mandestrobin	0.0020	U	ug/L	P398813	
		MCPP	0.0054	I	ug/L	P398813	
		Naproxen	0.0080	U	ug/L	P398813	MS
		Primidone	0.0040	U	ug/L	P398813	
		Pyraclostrobin	0.0020	U	ug/L	P398813	
		Thiamethoxam	0.0020	U	ug/L	P398813	
		Tolfenpyrad	0.0020	U	ug/L	P398813	
		Triclopyr	0.0040	U	ug/L	P398813	

Ref. Method and Comment:
EPA 8321B: MDL for some parameters elevated due to matrix interference.

Sample Location: IMPRGR41 **Collection Date/Time: 05/26/2021 08:45**

Field ID: IMPRGR41 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2250638	EPA 8321B	Acesulfame K	0.10	U	ug/L	P398724	
		2,4-D	0.0088		ug/L	P398813	
		AMPA	1.0	U	ug/L	P398724	
		2,4,5-T	0.0040	U	ug/L	P398813	
		Sucralose	0.083		ug/L	P398724	
		Acetaminophen	0.037	V	ug/L	P398813	RPD
		Endothall	0.25	U	ug/L	P398724	
		Acetamiprid	0.0020	U	ug/L	P398813	
		Glufosinate	1.0	U	ug/L	P398724	
		Glyphosate	1.0	U	ug/L	P398724	
		Afidopyropen	0.0020	U	ug/L	P398813	
		Bentazon	0.29		ug/L	P398813	
		Benzovindiflupyr	0.0020	U	ug/L	P398813	
		Carbamazepine	8.0E-04	U	ug/L	P398813	
		Clothianidin	0.0020	U	ug/L	P398813	
		Dinotefuran	0.0020	U	ug/L	P398813	
		Diuron	0.0020	U	ug/L	P398813	
		Fenuron	0.019	I	ug/L	P398813	
		Fluridone	0.028		ug/L	P398813	
		Imazapyr	0.17		ug/L	P398813	
		Hydrocodone	0.0020	U	ug/L	P398813	
		Ibuprofen	0.020	U	ug/L	P398813	
		Imidacloprid	0.0098		ug/L	P398813	
		Linuron	0.0040	U	ug/L	P398813	
		Mandestrobin	0.0020	U	ug/L	P398813	
		MCPP	0.0041	I	ug/L	P398813	
		Naproxen	0.0080	U	ug/L	P398813	MS
		Primidone	0.0040	U	ug/L	P398813	
		Pyraclostrobin	0.0020	U	ug/L	P398813	
		Thiamethoxam	0.0020	U	ug/L	P398813	
		Tolfenpyrad	0.0020	U	ug/L	P398813	
		Triclopyr	0.0040	U	ug/L	P398813	

Ref. Method and Comment:
EPA 8321B: MDL for some parameters elevated due to matrix interference.
EPA 8321B: V qualifier - Result for acetamenophen was confirmed in re-extraction beyond sample holding time.

Sample Location: IMPRGR30 **Collection Date/Time: 05/26/2021 09:03**

Field ID: IMPRGR30 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2250639	EPA 8321B	Acesulfame K	0.10	U	ug/L	P398724	
		2,4-D	0.013		ug/L	P398813	
		AMPA	1.0	U	ug/L	P398724	
		2,4,5-T	0.0040	U	ug/L	P398813	
		Sucralose	0.087		ug/L	P398724	
		Acetaminophen	0.0080	U	ug/L	P398813	RPD
		Endothall	0.25	U	ug/L	P398724	
		Acetamiprid	0.0020	U	ug/L	P398813	
		Glufosinate	1.0	U	ug/L	P398724	
		Glyphosate	1.0	U	ug/L	P398724	
		Afidopyropen	0.0020	U	ug/L	P398813	
		Bentazon	0.22		ug/L	P398813	
		Benzovindiflupyr	0.0020	U	ug/L	P398813	
		Carbamazepine	8.0E-04	U	ug/L	P398813	
		Clothianidin	0.0020	U	ug/L	P398813	
		Dinotefuran	0.0020	U	ug/L	P398813	
		Diuron	0.0020	U	ug/L	P398813	
		Fenuron	0.017	I	ug/L	P398813	
		Fluridone	0.023		ug/L	P398813	
		Imazapyr	0.14		ug/L	P398813	
		Hydrocodone	0.0020	U	ug/L	P398813	
		Ibuprofen	0.020	U	ug/L	P398813	
		Imidacloprid	0.013		ug/L	P398813	
		Linuron	0.0040	U	ug/L	P398813	
		Mandestrobin	0.0020	U	ug/L	P398813	
		MCPP	0.0049	I	ug/L	P398813	
		Naproxen	0.0080	U	ug/L	P398813	MS
		Primidone	0.0040	U	ug/L	P398813	
		Pyraclostrobin	0.0020	U	ug/L	P398813	
		Thiamethoxam	0.0020	U	ug/L	P398813	
		Tolfenpyrad	0.0020	U	ug/L	P398813	
		Triclopyr	0.0040	U	ug/L	P398813	

Ref. Method and Comment:
EPA 8321B: MDL for some parameters elevated due to matrix interference.

Sample Location: 47A-15GR **Collection Date/Time: 05/26/2021 08:58**

Field ID: 47A-15GR Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2250640	EPA 8321B	Acesulfame K	0.10	U	ug/L	P398724	
		2,4-D	0.0020	U	ug/L	P398813	
		AMPA	1.0	U	ug/L	P398724	
		2,4,5-T	0.0040	U	ug/L	P398813	
		Sucralose	0.46		ug/L	P398724	
		Acetaminophen	0.0080	U	ug/L	P398813	RPD
		Endothall	0.25	U	ug/L	P398724	
		Acetamiprid	0.0020	U	ug/L	P398813	
		Glufosinate	1.0	U	ug/L	P398724	
		Glyphosate	1.0	U	ug/L	P398724	
		Afidopyropen	0.0020	U	ug/L	P398813	
		Bentazon	0.18		ug/L	P398813	
		Benzovindiflupyr	0.0020	U	ug/L	P398813	
		Carbamazepine	8.6E-04	I	ug/L	P398813	
		Clothianidin	0.0068	I	ug/L	P398813	
		Dinotefuran	0.0020	U	ug/L	P398813	
		Diuron	0.0020	U	ug/L	P398813	
		Fenuron	0.016	U	ug/L	P398813	
		Fluridone	0.21		ug/L	P398813	
		Imazapyr	0.16		ug/L	P398813	
		Hydrocodone	0.0020	U	ug/L	P398813	
		Ibuprofen	0.020	U	ug/L	P398813	
		Imidacloprid	0.0020	U	ug/L	P398813	
		Linuron	0.0040	U	ug/L	P398813	
		Mandestrobin	0.0020	U	ug/L	P398813	
		MCPP	0.0020	U	ug/L	P398813	
		Naproxen	0.0080	U	ug/L	P398813	MS
		Primidone	0.0040	U	ug/L	P398813	
		Pyraclostrobin	0.0020	U	ug/L	P398813	
		Thiamethoxam	0.0020	U	ug/L	P398813	
		Tolfenpyrad	0.0020	U	ug/L	P398813	
		Triclopyr	0.0040	U	ug/L	P398813	

Ref. Method and Comment:
EPA 8321B: MDL for some parameters elevated due to matrix interference.

Sample Location: 47A-4GR **Collection Date/Time: 05/26/2021 09:27**

Field ID: 47A-4GR Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2250641	EPA 8321B	Acesulfame K	0.10	U	ug/L	P398724	
		2,4-D	0.0020	U	ug/L	P398813	
		AMPA	1.0	U	ug/L	P398724	
		2,4,5-T	0.0040	U	ug/L	P398813	
		Sucralose	0.40		ug/L	P398724	
		Acetaminophen	0.0080	U	ug/L	P398813	RPD
		Endothall	0.25	U	ug/L	P398724	
		Acetamiprid	0.0020	U	ug/L	P398813	
		Glufosinate	1.0	U	ug/L	P398724	
		Glyphosate	1.0	U	ug/L	P398724	
		Afidopyropen	0.0020	U	ug/L	P398813	
		Bentazon	0.14		ug/L	P398813	
		Benzovindiflupyr	0.0020	U	ug/L	P398813	
		Carbamazepine	8.0E-04	U	ug/L	P398813	
		Clothianidin	0.0021	I	ug/L	P398813	
		Dinotefuran	0.0020	U	ug/L	P398813	
		Diuron	0.0020	U	ug/L	P398813	
		Fenuron	0.020	I	ug/L	P398813	
		Fluridone	0.098		ug/L	P398813	
		Imazapyr	0.076		ug/L	P398813	
		Hydrocodone	0.0020	U	ug/L	P398813	
		Ibuprofen	0.020	U	ug/L	P398813	
		Imidacloprid	0.0020	U	ug/L	P398813	
		Linuron	0.0040	U	ug/L	P398813	
		Mandestrobin	0.0020	U	ug/L	P398813	
		MCPP	0.0020	U	ug/L	P398813	
		Naproxen	0.0080	U	ug/L	P398813	MS
		Primidone	0.0040	U	ug/L	P398813	
		Pyraclostrobin	0.0020	U	ug/L	P398813	
		Thiamethoxam	0.0020	U	ug/L	P398813	
		Tolfenpyrad	0.0020	U	ug/L	P398813	
		Triclopyr	0.0040	U	ug/L	P398813	

Ref. Method and Comment:
EPA 8321B: MDL for some parameters elevated due to matrix interference.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P398724

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: P398813

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.012	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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P398724

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	119		P	40 - 150
AMPA	92.6		P	40 - 150
Endothall	126		P	40 - 150
Glufosinate	96.5		P	40 - 150
Glyphosate	91.5		P	40 - 150
Sucralose	122		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P398813

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	98.3		P	40 - 150
2,4,5-T	111		P	40 - 150
Acetaminophen	75.2		P	30 - 150
Acetamiprid	81.1		P	40 - 150
Afidopyropen	50.7		P	40 - 150
Bentazon	132		P	30 - 150
Benzovindiflupyr	80.0		P	40 - 150
Carbamazepine	86.6		P	40 - 150
Clothianidin	85.0		P	40 - 150
Dinotefuran	84.6		P	40 - 150
Diuron	70.9		P	40 - 150
Fenuron	106		P	40 - 150
Fluridone	74.0		P	40 - 150
Hydrocodone	80.7		P	40 - 150
Ibuprofen	61.8		P	40 - 150
Imazapyr	85.8		P	40 - 150
Imidacloprid	85.8		P	40 - 150
Linuron	69.5		P	40 - 150
Mandestrobin	72.9		P	40 - 150
MCPP	108		P	40 - 150
Naproxen	47.9		P	40 - 150
Primidone	93.1		P	40 - 150
Pyraclostrobin	74.1		P	40 - 150
Thiamethoxam	83.6		P	40 - 150
Tolfenpyrad	46.9		P	30 - 150
Triclopyr	131		P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P398724

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2249591	Acesulfame K	115	118	P/P	40 - 150
2249591	AMPA	106	106	P/P	40 - 150
2249591	Endothall	95.0	105	P/P	40 - 150
2249591	Glufosinate	96.5	103	P/P	40 - 150
2249591	Glyphosate	107	108	P/P	40 - 150
2249591	Sucralose	114	116	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P398813

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2250311	2,4-D	96.1	121	P/P	40 - 150
2250311	2,4,5-T	96.2	83.4	P/P	40 - 150
2250311	Acetaminophen	119	73.7	P/P	30 - 150
2250311	Acetamiprid	78.7	76.4	P/P	40 - 150
2250311	Afidopyropen	48.1	49.9	P/P	40 - 150
2250311	Bentazon	60.5	47.7	P/P	30 - 150
2250311	Benzovindiflupyr	68.6	74.6	P/P	40 - 150
2250311	Carbamazepine	64.9	61.5	P/P	40 - 150
2250311	Clothianidin	71.7	68.6	P/P	40 - 150
2250311	Dinotefuran	89.9	90.7	P/P	40 - 150
2250311	Diuron	44.0	48.5	P/P	40 - 150
2250311	Fenuron	69.5	67.7	P/P	40 - 150
2250311	Fluridone	62.7	69.0	P/P	40 - 150
2250311	Hydrocodone	66.5	64.7	P/P	40 - 150
2250311	Ibuprofen	43.5	57.0	P/P	40 - 150
2250311	Imazapyr	93.6	93.7	P/P	40 - 150
2250311	Imidacloprid	126	133	P/P	40 - 150
2250311	Linuron	55.5	51.7	P/P	40 - 150
2250311	Mandestrobin	66.5	67.3	P/P	40 - 150
2250311	MCPP	96.4	100	P/P	40 - 150
2250311	Naproxen	43.0	37.1	P/F	40 - 150
2250311	Primidone	82.9	83.5	P/P	40 - 150
2250311	Pyraclostrobin	72.2	77.6	P/P	40 - 150
2250311	Thiamethoxam	90.2	83.9	P/P	40 - 150
2250311	Tolfenpyrad	46.4	46.4	P/P	30 - 150
2250311	Triclopyr	109	96.6	P/P	40 - 150

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P398724

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2249591	Acesulfame K	2.71	Spike	P	0 - 30
2249591	AMPA	0.200	Spike	P	0 - 30
2249591	Endothall	9.70	Spike	P	0 - 30
2249591	Glufosinate	6.86	Spike	P	0 - 30
2249591	Glyphosate	1.67	Spike	P	0 - 30
2249591	Sucralose	2.00	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P398813

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2250311	2,4-D	22.8	Spike	P	0 - 30
2250311	2,4,5-T	14.3	Spike	P	0 - 30
2250311	Acetaminophen	47.1	Spike	F	0 - 30
2250311	Acetamiprid	2.90	Spike	P	0 - 30
2250311	Afidopyropen	3.12	Spike	P	0 - 30
2250311	Bentazon	15.1	Spike	P	0 - 30
2250311	Benzovindiflupyr	8.31	Spike	P	0 - 30
2250311	Carbamazepine	5.44	Spike	P	0 - 30
2250311	Clothianidin	4.43	Spike	P	0 - 30
2250311	Dinotefuran	0.861	Spike	P	0 - 30
2250311	Diuron	9.58	Spike	P	0 - 30
2250311	Fenuron	2.71	Spike	P	0 - 30
2250311	Fluridone	9.52	Spike	P	0 - 30
2250311	Hydrocodone	2.73	Spike	P	0 - 30
2250311	Ibuprofen	26.9	Spike	P	0 - 30
2250311	Imazapyr	0.118	Spike	P	0 - 30
2250311	Imidacloprid	5.23	Spike	P	0 - 30
2250311	Linuron	6.93	Spike	P	0 - 30
2250311	Mandestrobin	1.26	Spike	P	0 - 30
2250311	MCPP	3.74	Spike	P	0 - 30
2250311	Naproxen	11.2	Spike	P	0 - 30
2250311	Primidone	0.720	Spike	P	0 - 30
2250311	Pyraclostrobin	7.21	Spike	P	0 - 30
2250311	Thiamethoxam	7.22	Spike	P	0 - 30
2250311	Tolfenpyrad	0.0153	Spike	P	0 - 30
2250311	Triclopyr	11.6	Spike	P	0 - 30

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2250637
Field Sample ID: IMPRGR51

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	123	P	30 - 160
EPA 8321B	Acetaminophen-d4	135	P	30 - 160
EPA 8321B	Carbamazepine-d10	92.2	P	30 - 160
EPA 8321B	Diuron-d6	65.6	P	30 - 160
EPA 8321B	Endothall-d6	99.6	P	30 - 160
EPA 8321B	Endothall-d6	99.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	92.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	92.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	58.3	P	30 - 160
EPA 8321B	Primidone-d5	121	P	30 - 160
EPA 8321B	Sucralose-d6	108	P	30 - 160
EPA 8321B	Sucralose-d6	108	P	30 - 160

Lab Sample ID: 2250638
Field Sample ID: IMPRGR41

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	106	P	30 - 160
EPA 8321B	Acetaminophen-d4	115	P	30 - 160
EPA 8321B	Carbamazepine-d10	94.1	P	30 - 160
EPA 8321B	Diuron-d6	64.0	P	30 - 160
EPA 8321B	Endothall-d6	81.0	P	30 - 160
EPA 8321B	Endothall-d6	81.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	110	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	110	P	30 - 160
EPA 8321B	Ibuprofen-d3	58.3	P	30 - 160
EPA 8321B	Primidone-d5	95.2	P	30 - 160
EPA 8321B	Sucralose-d6	94.8	P	30 - 160
EPA 8321B	Sucralose-d6	94.8	P	30 - 160

Lab Sample ID: 2250639
Field Sample ID: IMPRGR30

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	96.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	115	P	30 - 160
EPA 8321B	Carbamazepine-d10	98.4	P	30 - 160
EPA 8321B	Diuron-d6	67.4	P	30 - 160
EPA 8321B	Endothall-d6	67.4	P	30 - 160
EPA 8321B	Endothall-d6	67.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	50.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	50.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	69.7	P	30 - 160
EPA 8321B	Primidone-d5	96.5	P	30 - 160
EPA 8321B	Sucralose-d6	88.7	P	30 - 160
EPA 8321B	Sucralose-d6	88.7	P	30 - 160

Lab Sample ID: 2250640
Field Sample ID: 47A-15GR

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	101	P	30 - 160

Quality Assurance Report
Surrogates

Lab Sample ID: 2250640
Field Sample ID: 47A-15GR

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	119	P	30 - 160
EPA 8321B	Carbamazepine-d10	103	P	30 - 160
EPA 8321B	Diuron-d6	76.1	P	30 - 160
EPA 8321B	Endothall-d6	78.5	P	30 - 160
EPA 8321B	Endothall-d6	78.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	104	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	104	P	30 - 160
EPA 8321B	Ibuprofen-d3	75.1	P	30 - 160
EPA 8321B	Primidone-d5	94.3	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	30 - 160

Lab Sample ID: 2250641
Field Sample ID: 47A-4GR

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	97.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	108	P	30 - 160
EPA 8321B	Carbamazepine-d10	85.3	P	30 - 160
EPA 8321B	Diuron-d6	68.4	P	30 - 160
EPA 8321B	Endothall-d6	74.7	P	30 - 160
EPA 8321B	Endothall-d6	74.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	42.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	42.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	43.3	P	30 - 160
EPA 8321B	Primidone-d5	89.4	P	30 - 160
EPA 8321B	Sucralose-d6	82.5	P	30 - 160
EPA 8321B	Sucralose-d6	82.5	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A105748
Included Lab Sample IDs: 2250637, 2250638, 2250639, 2250640, 2250641

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	103	87.4	P/P	60 - 160
Endothall	121	114	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A105750
Included Lab Sample IDs: 2250637, 2250638, 2250639, 2250640, 2250641

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	124	127	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A105751
Included Lab Sample IDs: 2250637, 2250638, 2250639, 2250640, 2250641

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	84.4	100	P/P	60 - 160
Glufosinate	81.8	93.5	P/P	60 - 160
Glyphosate	80.7	93.8	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A105808
Included Lab Sample IDs: 2250637, 2250638, 2250639, 2250640, 2250641

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	86.6	89.0	P/P	50 - 150
2,4,5-T	143	144	P/P	50 - 150
Acetaminophen	85.9	87.8	P/P	60 - 160
Acetamiprid	102	103	P/P	50 - 150
Afidopyropen	72.5	73.3	P/P	50 - 150
Bentazon	75.5	142	P/P	50 - 160
Benzovindiflupyr	93.3	89.1	P/P	50 - 150
Carbamazepine	96.6	95.0	P/P	60 - 150
Clothianidin	97.2	97.8	P/P	60 - 150
Dinotefuran	93.6	91.7	P/P	50 - 150
Diuron	102	107	P/P	60 - 160
Fenuron	91.2	90.3	P/P	60 - 150
Fluridone	94.9	96.1	P/P	60 - 160
Hydrocodone	88.3	89.1	P/P	60 - 150
Ibuprofen	81.4	82.0	P/P	50 - 160
Imazapyr	90.2	99.8	P/P	50 - 150
Imidacloprid	93.7	87.5	P/P	60 - 150
Linuron	71.0	75.7	P/P	60 - 150
Mandestrobin	85.0	80.0	P/P	50 - 150
MCPP	102	104	P/P	50 - 150
Naproxen	78.8	88.5	P/P	50 - 160
Primidone	96.4	91.7	P/P	60 - 150
Pyraclostrobin	91.5	93.7	P/P	60 - 150
Thiamethoxam	96.1	91.7	P/P	50 - 150
Tolfenpyrad	97.1	78.4	P/P	60 - 150
Triclopyr	148	147	P/P	50 - 150

Quality Assurance Report
Calibration Verification

* 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		
					LCS	SMP	MS
EPA 8321B	2,4-D	98.3	96.1	121			22.8
	2,4,5-T	111	96.2	83.4			14.3
	Acesulfame K	119	115	118			2.71
	Acetaminophen	75.2	119	73.7			47.1
	Acetamiprid	81.1	78.7	76.4			2.90
	Afidopyropen	50.7	48.1	49.9			3.12
	AMPA	92.6	106	106			0.200
	Bentazon	132	60.5	47.7			15.1
	Benzovindiflupyr	80.0	68.6	74.6			8.31
	Carbamazepine	86.6	64.9	61.5			5.44
	Clothianidin	85.0	71.7	68.6			4.43
	Dinotefuran	84.6	89.9	90.7			0.861
	Diuron	70.9	44.0	48.5			9.58
	Endothall	126	95.0	105			9.70
	Fenuron	106	69.5	67.7			2.71
	Fluridone	74.0	62.7	69.0			9.52
	Glufosinate	96.5	96.5	103			6.86
	Glyphosate	91.5	107	108			1.67
	Hydrocodone	80.7	66.5	64.7			2.73
	Ibuprofen	61.8	43.5	57.0			26.9
	Imazapyr	85.8	93.6	93.7			0.118
	Imidacloprid	85.8	126	133			5.23
	Linuron	69.5	55.5	51.7			6.93
	Mandestrobin	72.9	66.5	67.3			1.26
	MCPP	108	96.4	100			3.74
	Naproxen	47.9	43.0	37.1			11.2
	Primidone	93.1	82.9	83.5			0.720
	Pyraclostrobin	74.1	72.2	77.6			7.21
	Sucralose	122	114	116			2.00
	Thiamethoxam	83.6	90.2	83.9			7.22
	Tolfenpyrad	46.9	46.4	46.4			0.0153
	Triclopyr	131	109	96.6			11.6

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2250637, 2250638, 2250639, 2250640, 2250641
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2250637, 2250638, 2250639, 2250640, 2250641

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	05/27/2021	05/27/2021 11:30	Pramila Ghimire	05/27/2021 15:16	Juyoung Kim	2250638
	05/27/2021	05/27/2021 11:30	Pramila Ghimire	05/27/2021 15:17	Pramila Ghimire	2250637
	05/27/2021	05/27/2021 11:30	Pramila Ghimire	05/27/2021 15:26	Juyoung Kim	2250639
	05/27/2021	05/27/2021 11:30	Pramila Ghimire	05/27/2021 15:31	Pramila Ghimire	2250638
	05/27/2021	05/27/2021 11:30	Pramila Ghimire	05/27/2021 15:37	Juyoung Kim	2250640
	05/27/2021	05/27/2021 11:30	Pramila Ghimire	05/27/2021 15:44	Pramila Ghimire	2250639
	05/27/2021	05/27/2021 11:30	Pramila Ghimire	05/27/2021 15:48	Juyoung Kim	2250641
	05/27/2021	05/27/2021 11:30	Pramila Ghimire	05/27/2021 15:58	Pramila Ghimire	2250640
	05/27/2021	05/27/2021 11:30	Pramila Ghimire	05/27/2021 16:09	Juyoung Kim	2250637
	05/27/2021	05/27/2021 11:30	Pramila Ghimire	05/27/2021 16:12	Pramila Ghimire	2250641
	05/27/2021	05/27/2021 11:30	Pramila Ghimire	05/27/2021 22:46	Pramila Ghimire	2250637
	05/27/2021	05/27/2021 11:30	Pramila Ghimire	05/27/2021 22:57	Pramila Ghimire	2250638
	05/27/2021	05/27/2021 11:30	Pramila Ghimire	05/27/2021 23:09	Pramila Ghimire	2250639
	05/27/2021	05/27/2021 11:30	Pramila Ghimire	05/27/2021 23:21	Pramila Ghimire	2250640
	05/27/2021	05/27/2021 11:30	Pramila Ghimire	05/27/2021 23:33	Pramila Ghimire	2250641
	05/27/2021	05/27/2021 14:00	Hoor Shaik	05/29/2021 19:52	Juyoung Kim	2250637
	05/27/2021	05/27/2021 14:00	Hoor Shaik	05/29/2021 20:27	Juyoung Kim	2250638
	05/27/2021	05/27/2021 14:00	Hoor Shaik	05/29/2021 21:02	Juyoung Kim	2250639
	05/27/2021	05/27/2021 14:00	Hoor Shaik	05/29/2021 21:36	Juyoung Kim	2250640
	05/27/2021	05/27/2021 14:00	Hoor Shaik	05/29/2021 22:11	Juyoung Kim	2250641
	05/27/2021	05/27/2021 14:00	Hoor Shaik	06/01/2021 11:29	Juyoung Kim	2250637
	05/27/2021	05/27/2021 14:00	Hoor Shaik	06/01/2021 12:03	Juyoung Kim	2250638
	05/27/2021	05/27/2021 14:00	Hoor Shaik	06/01/2021 12:38	Juyoung Kim	2250639
	05/27/2021	05/27/2021 14:00	Hoor Shaik	06/01/2021 13:13	Juyoung Kim	2250640
	05/27/2021	05/27/2021 14:00	Hoor Shaik	06/01/2021 13:47	Juyoung Kim	2250641