Chemical Analysis Report

SW-DIST-2019-07-18-01

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

Event Description: **RUN 2**
Request ID: **RQ-2019-07-15-37**
Customer: **SW-DIST**
Project ID: **SMP**

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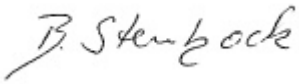
Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator Date Certified: 08-AUG-2019 19:01



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: MUSTANG RANCH CREEK @ HOPEWELL **Collection Date/Time: 07/17/2019 11:15**

Field ID: G2SW0026 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2104392	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P367668	
		2,4-D	0.026	J	ug/L	P367283	MS
		AMPA**	1.8		ug/L	P367668	
		Sucralose**	0.11		ug/L	P367668	
		Acetaminophen**	0.0080	U	ug/L	P367283	
		Endothall**	0.25	U	ug/L	P367668	
		Acetamiprid**	0.0031	IJ	ug/L	P367283	
		Glufosinate**	0.10	U	ug/L	P367668	
		Glyphosate**	2.0		ug/L	P367668	
		Afidopyropen**	0.0020	UJ	ug/L	P367283	
		Bentazon	8.0E-04	U	ug/L	P367283	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P367283	
		Carbamazepine**	8.0E-04	U	ug/L	P367283	
		Clothianidin**	0.025	J	ug/L	P367283	
		Dinotefuran**	0.024	J	ug/L	P367283	
		Diuron	0.010		ug/L	P367283	
		Fenuron	0.016	U	ug/L	P367283	
		Fluridone**	8.0E-04	U	ug/L	P367283	
		Imazapyr**	0.016	I	ug/L	P367283	
		Hydrocodone**	0.0020	U	ug/L	P367283	
		Ibuprofen**	0.020	U	ug/L	P367283	
		Imidacloprid	0.13		ug/L	P367283	
		Linuron	0.0040	U	ug/L	P367283	
		Mandestrobin**	0.0020	UJ	ug/L	P367283	
		MCPP	0.0020	UJ	ug/L	P367283	MS
		Naproxen**	0.0080	U	ug/L	P367283	
		Primidone**	0.0040	U	ug/L	P367283	
		Pyraclostrobin**	0.0020	U	ug/L	P367283	
		Thiamethoxam**	0.016	J	ug/L	P367283	MS
		Tolfenpyrad**	0.0020	UJ	ug/L	P367283	
		Triclopyr**	0.0040	UJ	ug/L	P367283	MS

Ref. Method and Comment:
EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample. Refer to the narrative for an explanation of QC Codes.

Sample Location: SPARTMAN BRANCH AT HARVEY TEW RD **Collection Date/Time: 07/17/2019 10:30**

Field ID: G2SW0067 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2104393	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P367668	
		2,4-D	0.0079	I	ug/L	P367283	MS
		AMPA**	0.24	I	ug/L	P367668	
		Sucralose**	0.24		ug/L	P367668	
		Acetaminophen**	0.0080	U	ug/L	P367283	
		Endothall**	0.25	U	ug/L	P367668	
		Acetamiprid**	0.0020	UJ	ug/L	P367283	
		Glufosinate**	0.10	U	ug/L	P367668	
		Glyphosate**	0.33	I	ug/L	P367668	
		Afidopyropen**	0.0020	UJ	ug/L	P367283	
		Bentazon	0.031		ug/L	P367283	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P367283	
		Carbamazepine**	8.0E-04	U	ug/L	P367283	
		Clothianidin**	0.0020	UJ	ug/L	P367283	
		Dinotefuran**	0.0020	UJ	ug/L	P367283	
		Diuron	0.0021	I	ug/L	P367283	
		Fenuron	0.016	U	ug/L	P367283	
		Fluridone**	0.0035		ug/L	P367283	
		Imazapyr**	0.022		ug/L	P367283	
		Hydrocodone**	0.0020	U	ug/L	P367283	
		Ibuprofen**	0.020	U	ug/L	P367283	
		Imidacloprid	0.015		ug/L	P367283	
		Linuron	0.0040	U	ug/L	P367283	
		Mandestrobin**	0.0020	UJ	ug/L	P367283	
		MCPP	0.0020	U	ug/L	P367283	MS
		Naproxen**	0.0080	U	ug/L	P367283	
		Primidone**	0.0040	U	ug/L	P367283	
		Pyraclostrobin**	0.0020	U	ug/L	P367283	
		Thiamethoxam**	0.0020	UJ	ug/L	P367283	MS
		Tolfenpyrad**	0.0020	UJ	ug/L	P367283	
		Triclopyr**	0.0040	U	ug/L	P367283	MS

Ref. Method and Comment:
EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: POLEY CREEK @ SR 60 **Collection Date/Time: 07/17/2019 11:00**

Field ID: G2SW0049 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2104394	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P367668	
		2,4-D	0.017		ug/L	P367283	MS
		AMPA**	0.66		ug/L	P367668	
		Sucralose**	0.47		ug/L	P367668	
		Acetaminophen**	0.0080	U	ug/L	P367283	
		Endothall**	0.25	U	ug/L	P367668	
		Acetamiprid**	0.0020	UJ	ug/L	P367283	
		Glufosinate**	0.10	U	ug/L	P367668	
		Glyphosate**	0.54		ug/L	P367668	
		Afidopyropen**	0.0020	UJ	ug/L	P367283	
		Bentazon	0.020		ug/L	P367283	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P367283	
		Carbamazepine**	0.0037		ug/L	P367283	
		Clothianidin**	0.011	J	ug/L	P367283	
		Dinotefuran**	0.0020	UJ	ug/L	P367283	
		Diuron	0.0045	I	ug/L	P367283	
		Fenuron	0.019	I	ug/L	P367283	
		Fluridone**	0.043		ug/L	P367283	
		Imazapyr**	0.48		ug/L	P367283	
		Hydrocodone**	0.0020	U	ug/L	P367283	
		Ibuprofen**	0.020	U	ug/L	P367283	
		Imidacloprid	0.043		ug/L	P367283	
		Linuron	0.0040	U	ug/L	P367283	
		Mandestrobin**	0.0020	UJ	ug/L	P367283	
		MCPP	0.0021	I	ug/L	P367283	MS
		Naproxen**	0.0080	U	ug/L	P367283	
		Primidone**	0.0072	I	ug/L	P367283	
		Pyraclostrobin**	0.0020	U	ug/L	P367283	
		Thiamethoxam**	0.0020	UJ	ug/L	P367283	MS
		Tolfenpyrad**	0.0020	UJ	ug/L	P367283	
		Triclopyr**	0.0040	U	ug/L	P367283	MS

Ref. Method and Comment:
EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: BAKER CREEK EAST @ PEMBERTON DR **Collection Date/Time: 07/17/2019 10:00**

Field ID: G2SW0080 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2104390	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P367668	
		2,4-D	0.053		ug/L	P367283	MS
		AMPA**	0.83		ug/L	P367668	
		Sucralose**	0.27		ug/L	P367668	
		Acetaminophen**	0.0080	U	ug/L	P367283	
		Endothall**	0.25	U	ug/L	P367668	
		Acetamiprid**	0.0020	UJ	ug/L	P367283	
		Glufosinate**	0.10	U	ug/L	P367668	
		Glyphosate**	2.1		ug/L	P367668	
		Afidopyropen**	0.0020	UJ	ug/L	P367283	
		Bentazon	0.021		ug/L	P367283	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P367283	
		Carbamazepine**	8.2E-04	I	ug/L	P367283	
		Clothianidin**	0.014	J	ug/L	P367283	
		Dinotefuran**	0.0050	IJ	ug/L	P367283	
		Diuron	0.010		ug/L	P367283	
		Fenuron	0.016	U	ug/L	P367283	
		Fluridone**	0.0079		ug/L	P367283	
		Imazapyr**	0.26		ug/L	P367283	
		Hydrocodone**	0.0020	U	ug/L	P367283	
		Ibuprofen**	0.020	U	ug/L	P367283	
		Imidacloprid	0.036		ug/L	P367283	
		Linuron	0.0040	U	ug/L	P367283	
		Mandestrobin**	0.0020	UJ	ug/L	P367283	
		MCPP	0.0066	I	ug/L	P367283	MS
		Naproxen**	0.0080	U	ug/L	P367283	
		Primidone**	0.0040	U	ug/L	P367283	
		Pyraclostrobin**	0.0020	U	ug/L	P367283	
		Thiamethoxam**	0.026	J	ug/L	P367283	MS
		Tolfenpyrad**	0.0020	UJ	ug/L	P367283	
		Triclopyr**	0.0040	U	ug/L	P367283	MS

Ref. Method and Comment:
EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: BAKER CREEK EAST @ MCINTOSH RD **Collection Date/Time: 07/17/2019 09:50**

Field ID: G2SW0081 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2104391	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P367668	
		2,4-D	0.44		ug/L	P367283	MS
		AMPA**	0.77		ug/L	P367668	
		Sucralose**	0.34		ug/L	P367668	
		Acetaminophen**	0.0080	U	ug/L	P367283	
		Endothall**	0.25	U	ug/L	P367668	
		Acetamiprid**	0.0020	UJ	ug/L	P367283	
		Glufosinate**	0.10	U	ug/L	P367668	
		Glyphosate**	2.4		ug/L	P367668	
		Afidopyropen**	0.0020	UJ	ug/L	P367283	
		Bentazon	0.020		ug/L	P367283	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P367283	
		Carbamazepine**	8.0E-04	U	ug/L	P367283	
		Clothianidin**	0.0098	J	ug/L	P367283	
		Dinotefuran**	0.0046	IJ	ug/L	P367283	
		Diuron	0.010		ug/L	P367283	
		Fenuron	0.016	U	ug/L	P367283	
		Fluridone**	0.0077		ug/L	P367283	
		Imazapyr**	0.22		ug/L	P367283	
		Hydrocodone**	0.0020	U	ug/L	P367283	
		Ibuprofen**	0.020	U	ug/L	P367283	
		Imidacloprid	0.030		ug/L	P367283	
		Linuron	0.0040	U	ug/L	P367283	
		Mandestrobin**	0.0020	UJ	ug/L	P367283	
		MCPP	0.0020	U	ug/L	P367283	MS
		Naproxen**	0.0080	U	ug/L	P367283	
		Primidone**	0.0043	I	ug/L	P367283	
		Pyraclostrobin**	0.0020	U	ug/L	P367283	
		Thiamethoxam**	0.023	J	ug/L	P367283	MS
		Tolfenpyrad**	0.0020	UJ	ug/L	P367283	
		Triclopyr**	0.0040	U	ug/L	P367283	MS

Ref. Method and Comment:
EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P367283

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
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: P367668

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: P367283

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	132		P	40 - 150
Acetaminophen	95.6		P	30 - 150
Acetamiprid	102		P	40 - 150
Afidopyropen	105		P	40 - 150
Bentazon	94.0		P	30 - 150
Benzovindiflupyr	99.1		P	40 - 150
Carbamazepine	115		P	40 - 150
Clothianidin	111		P	40 - 150
Dinotefuran	114		P	40 - 150
Diuron	112		P	40 - 150
Fenuron	120		P	40 - 150
Fluridone	111		P	40 - 150
Hydrocodone	100		P	40 - 150
Ibuprofen	90.7		P	30 - 150
Imazapyr	91.9		P	40 - 150
Imidacloprid	103		P	40 - 150
Linuron	95.5		P	40 - 150
Mandestrobin	110		P	40 - 150
MCPP	126		P	40 - 150
Naproxen	117		P	40 - 150
Primidone	106		P	40 - 150
Pyraclostrobin	108		P	30 - 150
Thiamethoxam	111		P	40 - 150
Tolfenpyrad	66.6		P	40 - 150
Triclopyr	119		P	30 - 150

Reference Method: EPA 8321B
Batch ID: P367668

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	71.3		P	40 - 150
AMPA	102		P	40 - 150
Endothall	111		P	40 - 150
Glufosinate	90.0		P	40 - 150
Glyphosate	98.5		P	40 - 140
Sucralose	98.1		P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P367283

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2104392	2,4-D	181	164	F/F	40 - 150
2104392	Acetaminophen	110	103	P/P	30 - 150
2104392	Acetamiprid	104	110	P/P	40 - 150
2104392	Afidopyropen	106	108	P/P	40 - 150
2104392	Bentazon	65.9	63.9	P/P	30 - 150
2104392	Benzovindiflupyr	95.8	94.7	P/P	40 - 150
2104392	Carbamazepine	107	106	P/P	40 - 150
2104392	Clothianidin	149	143	P/P	40 - 150
2104392	Dinotefuran	149	129	P/P	40 - 150
2104392	Diuron	98.2	94.9	P/P	40 - 150
2104392	Fenuron	102	101	P/P	40 - 150
2104392	Fluridone	109	106	P/P	40 - 150
2104392	Hydrocodone	112	105	P/P	40 - 150
2104392	Ibuprofen	104	93.1	P/P	30 - 150
2104392	Imazapyr	88.0	87.2	P/P	40 - 150
2104392	Linuron	95.0	89.0	P/P	40 - 150
2104392	Mandestrobin	116	113	P/P	40 - 150
2104392	MCPP	189	176	F/F	40 - 150
2104392	Naproxen	134	108	P/P	40 - 150
2104392	Primidone	117	100	P/P	40 - 150
2104392	Pyraclostrobin	103	103	P/P	30 - 150
2104392	Thiamethoxam	179	171	F/F	40 - 150
2104392	Tolfenpyrad	70.2	67.3	P/P	40 - 150
2104392	Triclopyr	173	161	F/F	30 - 150

Reference Method: EPA 8321B
Batch ID: P367668

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2104164	Acesulfame K	69.4	80.8	P/P	40 - 150
2104164	AMPA	98.2	99.3	P/P	40 - 150
2104164	Endothall	110	113	P/P	40 - 150
2104164	Glufosinate	91.3	95.2	P/P	40 - 150
2104164	Glyphosate	92.7	94.4	P/P	40 - 140
2104164	Sucralose	92.1	91.7	P/P	40 - 150

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P367283

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104392	2,4-D	8.18	Spike	P	0 - 30
2104392	Acetaminophen	6.87	Spike	P	0 - 30
2104392	Acetamiprid	5.16	Spike	P	0 - 30
2104392	Afidopyropen	1.94	Spike	P	0 - 30
2104392	Bentazon	3.12	Spike	P	0 - 30
2104392	Benzovindiflupyr	1.19	Spike	P	0 - 30
2104392	Carbamazepine	1.68	Spike	P	0 - 30
2104392	Clothianidin	3.01	Spike	P	0 - 30
2104392	Dinotefuran	11.6	Spike	P	0 - 30
2104392	Diuron	3.06	Spike	P	0 - 30
2104392	Fenuron	1.10	Spike	P	0 - 30
2104392	Fluridone	3.53	Spike	P	0 - 30
2104392	Hydrocodone	7.32	Spike	P	0 - 30
2104392	Ibuprofen	10.7	Spike	P	0 - 30
2104392	Imazapyr	0.816	Spike	P	0 - 30
2104392	Imidacloprid	23.7	Spike	P	0 - 30
2104392	Linuron	6.52	Spike	P	0 - 30
2104392	Mandestrobin	2.41	Spike	P	0 - 30
2104392	MCPP	7.38	Spike	P	0 - 30
2104392	Naproxen	21.5	Spike	P	0 - 30
2104392	Primidone	14.9	Spike	P	0 - 30
2104392	Pyraclostrobin	0.164	Spike	P	0 - 30
2104392	Thiamethoxam	4.12	Spike	P	0 - 30
2104392	Tolfenpyrad	4.28	Spike	P	0 - 30
2104392	Triclopyr	7.40	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P367668

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104164	Acesulfame K	15.2	Spike	P	0 - 30
2104164	AMPA	1.08	Spike	P	0 - 30
2104164	Endothall	2.51	Spike	P	0 - 30
2104164	Glufosinate	4.24	Spike	P	0 - 30
2104164	Glyphosate	1.79	Spike	P	0 - 30
2104164	Sucralose	0.474	Spike	P	0 - 30

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report
Surrogates

Lab Sample ID: 2104390
Field Sample ID: G2SW0080

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	113	P	30 - 160
EPA 8321B	Acetaminophen-d4	129	P	30 - 160
EPA 8321B	Carbamazepine-d10	88.9	P	30 - 160
EPA 8321B	Diuron-d6	103	P	30 - 160
EPA 8321B	Endothall-d6	85.4	P	30 - 160
EPA 8321B	Endothall-d6	85.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	78.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	78.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	130	P	30 - 160
EPA 8321B	Primidone-d5	123	P	30 - 160
EPA 8321B	Sucralose-d6	125	P	30 - 160
EPA 8321B	Sucralose-d6	125	P	30 - 160

Lab Sample ID: 2104391
Field Sample ID: G2SW0081

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	88.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	117	P	30 - 160
EPA 8321B	Carbamazepine-d10	83.0	P	30 - 160
EPA 8321B	Diuron-d6	93.5	P	30 - 160
EPA 8321B	Endothall-d6	89.7	P	30 - 160
EPA 8321B	Endothall-d6	89.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	79.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	79.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	116	P	30 - 160
EPA 8321B	Primidone-d5	113	P	30 - 160
EPA 8321B	Sucralose-d6	120	P	30 - 160
EPA 8321B	Sucralose-d6	120	P	30 - 160

Lab Sample ID: 2104392
Field Sample ID: G2SW0026

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	91.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	119	P	30 - 160
EPA 8321B	Carbamazepine-d10	93.2	P	30 - 160
EPA 8321B	Diuron-d6	103	P	30 - 160
EPA 8321B	Endothall-d6	76.5	P	30 - 160
EPA 8321B	Endothall-d6	76.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	74.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	74.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	120	P	30 - 160
EPA 8321B	Primidone-d5	131	P	30 - 160
EPA 8321B	Sucralose-d6	107	P	30 - 160
EPA 8321B	Sucralose-d6	107	P	30 - 160

Lab Sample ID: 2104393
Field Sample ID: G2SW0067

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	93.7	P	30 - 160

Quality Assurance Report
Surrogates

Lab Sample ID: 2104393
Field Sample ID: G2SW0067

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	107	P	30 - 160
EPA 8321B	Carbamazepine-d10	83.5	P	30 - 160
EPA 8321B	Diuron-d6	90.7	P	30 - 160
EPA 8321B	Endothall-d6	92.6	P	30 - 160
EPA 8321B	Endothall-d6	92.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	80.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	80.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	118	P	30 - 160
EPA 8321B	Primidone-d5	103	P	30 - 160
EPA 8321B	Sucralose-d6	105	P	30 - 160
EPA 8321B	Sucralose-d6	105	P	30 - 160

Lab Sample ID: 2104394
Field Sample ID: G2SW0049

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	90.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	120	P	30 - 160
EPA 8321B	Carbamazepine-d10	99.6	P	30 - 160
EPA 8321B	Diuron-d6	107	P	30 - 160
EPA 8321B	Endothall-d6	82.3	P	30 - 160
EPA 8321B	Endothall-d6	82.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	79.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	79.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	118	P	30 - 160
EPA 8321B	Primidone-d5	139	P	30 - 160
EPA 8321B	Sucralose-d6	84.8	P	30 - 160
EPA 8321B	Sucralose-d6	84.8	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A92848
Included Lab Sample IDs: 2104390, 2104391, 2104392, 2104393, 2104394

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	106	98.6	P/P	50 - 150
2,4-D	98.6	108	P/P	50 - 150
Acetaminophen	100	101	P/P	60 - 160
Acetaminophen	101	116	P/P	60 - 160
Acetamiprid	113	119	P/P	50 - 150
Acetamiprid	119	113	P/P	50 - 150
Afidopyropen	112	134	P/P	50 - 150
Afidopyropen	134	111	P/P	50 - 150
Bentazon	90.6	93.7	P/P	50 - 160
Bentazon	93.7	92.7	P/P	50 - 160
Benzovindiflupyr	109	110	P/P	50 - 150
Benzovindiflupyr	112	109	P/P	50 - 150
Carbamazepine	122	123	P/P	60 - 150
Carbamazepine	123	128	P/P	60 - 150
Clothianidin	129	143	P/P	60 - 150
Clothianidin	130	129	P/P	60 - 150
Dinotefuran	123	125	P/P	50 - 150
Dinotefuran	124	123	P/P	50 - 150
Diuron	124	119	P/P	60 - 150
Diuron	124	124	P/P	60 - 150
Fenuron	120	128	P/P	60 - 150
Fenuron	128	126	P/P	60 - 150
Fluridone	122	127	P/P	60 - 160
Fluridone	127	124	P/P	60 - 160
Hydrocodone	105	115	P/P	60 - 150
Hydrocodone	106	105	P/P	60 - 150
Ibuprofen	105	98.1	P/P	50 - 160
Ibuprofen	105	105	P/P	50 - 160
Imazapyr	107	83.7	P/P	50 - 150
Imazapyr	92.1	107	P/P	50 - 150
Imidacloprid	104	105	P/P	60 - 150
Imidacloprid	105	108	P/P	60 - 150
Linuron	109	116	P/P	60 - 150
Linuron	116	118	P/P	60 - 150
Mandestrobin	127	131	P/P	50 - 150
Mandestrobin	131	133	P/P	50 - 150
MCPP	103	104	P/P	50 - 150
MCPP	108	103	P/P	50 - 150
Naproxen	146	80.5	P/P	50 - 160
Naproxen	80.5	108	P/P	50 - 160
Primidone	104	107	P/P	60 - 150
Primidone	115	104	P/P	60 - 150
Pyraclostrobin	114	122	P/P	60 - 150
Pyraclostrobin	122	118	P/P	60 - 150
Thiamethoxam	113	121	P/P	50 - 150
Thiamethoxam	125	113	P/P	50 - 150
Tolfenpyrad	108	106	P/P	60 - 150
Tolfenpyrad	108	108	P/P	60 - 150
Triclopyr	102	91.6	P/P	50 - 150
Triclopyr	95.6	102	P/P	50 - 150

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A92984
Included Lab Sample IDs: 2104390, 2104391, 2104392, 2104393, 2104394

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	98.4	81.4	P/P	60 - 160
Endothall	99.0	110	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A92986
Included Lab Sample IDs: 2104390, 2104391, 2104392, 2104393, 2104394

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	103	99.6	P/P	60 - 160
Glufosinate	86.9	87.0	P/P	60 - 160
Glyphosate	93.7	96.3	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A93230
Included Lab Sample IDs: 2104390, 2104391, 2104392, 2104393, 2104394

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	89.1	99.9	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		
					LCS	SMP	MS
EPA 8321B	2,4-D	132	181	164			8.18
	Acesulfame K	71.3	69.4	80.8			15.2
	Acetaminophen	95.6	110	103			6.87
	Acetamiprid	102	104	110			5.16
	Afidopyropen	105	106	108			1.94
	AMPA	102	98.2	99.3			1.08
	Bentazon	94.0	65.9	63.9			3.12
	Benzovindiflupyr	99.1	95.8	94.7			1.19
	Carbamazepine	115	107	106			1.68
	Clothianidin	111	149	143			3.01
	Dinotefuran	114	149	129			11.6
	Diuron	112	98.2	94.9			3.06
	Endothall	111	110	113			2.51
	Fenuron	120	102	101			1.10
	Fluridone	111	109	106			3.53
	Glufosinate	90.0	91.3	95.2			4.24
	Glyphosate	98.5	92.7	94.4			1.79
	Hydrocodone	100	112	105			7.32
	Ibuprofen	90.7	104	93.1			10.7
	Imazapyr	91.9	88.0	87.2			0.816
	Imidacloprid	103					23.7
	Linuron	95.5	95.0	89.0			6.52
	Mandestrobin	110	116	113			2.41
	MCPP	126	189	176			7.38
	Naproxen	117	134	108			21.5
	Primidone	106	117	100			14.9
	Pyraclostrobin	108	103	103			0.164
	Sucralose	98.1	92.1	91.7			0.474
	Thiamethoxam	111	179	171			4.12
	Tolfenpyrad	66.6	70.2	67.3			4.28
	Triclopyr	119	173	161			7.40

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2104390, 2104391, 2104392, 2104393, 2104394
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2104390, 2104391, 2104392, 2104393, 2104394

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	07/18/2019	07/19/2019 13:00	Hoor Shaik	07/20/2019 03:41	Juyoung Kim	2104392
	07/18/2019	07/19/2019 13:00	Hoor Shaik	07/20/2019 04:50	Juyoung Kim	2104390
	07/18/2019	07/19/2019 13:00	Hoor Shaik	07/20/2019 05:25	Juyoung Kim	2104391
	07/18/2019	07/19/2019 13:00	Hoor Shaik	07/20/2019 06:34	Juyoung Kim	2104393
	07/18/2019	07/19/2019 13:00	Hoor Shaik	07/20/2019 07:08	Juyoung Kim	2104394
	07/18/2019	07/22/2019 10:00	Rebecca Ware	07/22/2019 12:51	Rebecca Ware	2104390
	07/18/2019	07/22/2019 10:00	Rebecca Ware	07/22/2019 13:04	Rebecca Ware	2104391
	07/18/2019	07/22/2019 10:00	Rebecca Ware	07/22/2019 13:18	Rebecca Ware	2104392
	07/18/2019	07/22/2019 10:00	Rebecca Ware	07/22/2019 13:32	Rebecca Ware	2104393
	07/18/2019	07/22/2019 10:00	Rebecca Ware	07/22/2019 13:46	Rebecca Ware	2104394
	07/18/2019	07/22/2019 10:00	Rebecca Ware	07/23/2019 12:25	Rebecca Ware	2104390
	07/18/2019	07/22/2019 10:00	Rebecca Ware	07/23/2019 12:35	Rebecca Ware	2104391
	07/18/2019	07/22/2019 10:00	Rebecca Ware	07/23/2019 12:46	Rebecca Ware	2104392
	07/18/2019	07/22/2019 10:00	Rebecca Ware	07/23/2019 12:57	Rebecca Ware	2104393
	07/18/2019	07/22/2019 10:00	Rebecca Ware	07/23/2019 13:08	Rebecca Ware	2104394
	07/18/2019	07/22/2019 10:00	Rebecca Ware	08/02/2019 01:03	Rebecca Ware	2104390
	07/18/2019	07/22/2019 10:00	Rebecca Ware	08/02/2019 01:15	Rebecca Ware	2104391
	07/18/2019	07/22/2019 10:00	Rebecca Ware	08/02/2019 01:26	Rebecca Ware	2104392
	07/18/2019	07/22/2019 10:00	Rebecca Ware	08/02/2019 01:38	Rebecca Ware	2104393
	07/18/2019	07/22/2019 10:00	Rebecca Ware	08/02/2019 01:50	Rebecca Ware	2104394