

Chemical Analysis Report

CEN-DIST-2020-10-15-01

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

Event Description: **Turnbull/Strickland/Rose**
Request ID: **RQ-2020-09-21-51**
Customer: **CEN-DIST**
Project ID: **SMP**

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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 23-OCT-2020 12:32

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line extending from the top of the "T".

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: Rose Bay @ 125m Ne of Boat Ramp

Collection Date/Time: 10/14/2020 10:35

Field ID: G5CE0073

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2202374	EPA 8321B	2,4-D	0.029		ug/L	P388705	RPD
		Acesulfame K**	0.10	UJ	ug/L	P388857	SUR
		AMPA**	1.0	U	ug/L	P388857	
		Sucralose**	0.41		ug/L	P388857	
		Acetaminophen**	0.0080	U	ug/L	P388705	
		Acetamiprid**	0.0020	U	ug/L	P388705	
		Endothall**	0.25	UJ	ug/L	P388857	SUR
		Glufosinate**	1.0	U	ug/L	P388857	
		Glyphosate**	1.0	U	ug/L	P388857	
		Afidopyropen**	0.0020	U	ug/L	P388705	MS, RPD
		Bentazon	0.078		ug/L	P388705	MS
		Benzovindiflupyr**	0.0020	U	ug/L	P388705	
		Carbamazepine**	9.2E-04	I	ug/L	P388705	
		Clothianidin**	0.0041	I	ug/L	P388705	
		Dinotefuran**	0.0020	U	ug/L	P388705	
		Diuron	0.0060	I	ug/L	P388705	MS, RPD
		Fenuron	0.016	U	ug/L	P388705	
		Fluridone**	0.011		ug/L	P388705	
		Imazapyr**	0.083		ug/L	P388705	
		Hydrocodone**	0.0020	U	ug/L	P388705	
		Ibuprofen**	0.020	U	ug/L	P388705	
		Imidacloprid	0.016		ug/L	P388705	
		Linuron	0.0040	U	ug/L	P388705	
		Mandestrobin**	0.0020	U	ug/L	P388705	
		MCPP	0.0020	U	ug/L	P388705	
		Naproxen**	0.0080	U	ug/L	P388705	
		Primidone**	0.0040	U	ug/L	P388705	
		Pyraclostrobin**	0.0020	U	ug/L	P388705	
		Thiamethoxam**	0.0020	U	ug/L	P388705	
		Tolfenpyrad**	0.0020	U	ug/L	P388705	
		Triclopyr**	0.0040	U	ug/L	P388705	MS, RPD

Ref. Method and Comment:

EPA 8321B: MDL for some parameters elevated due to matrix interference. Results confirmed in sample duplicate. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Rose Bay @ 200m E of Boat Ramp

Collection Date/Time: 10/14/2020 10:42

Field ID: G5CE0098

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2202375	EPA 8321B	2,4-D	0.020		ug/L	P388895	
		Acesulfame K**	0.10	UJ	ug/L	P388857	SUR
		AMPA**	1.0	U	ug/L	P388857	
		Sucralose**	0.43		ug/L	P388857	
		Acetaminophen**	0.0080	U	ug/L	P388895	
		Acetamiprid**	0.0020	U	ug/L	P388895	
		Endothall**	0.25	UJ	ug/L	P388857	SUR
		Glufosinate**	1.0	U	ug/L	P388857	
		Glyphosate**	1.0	U	ug/L	P388857	
		Afidopyropen**	0.0020	U	ug/L	P388895	
		Bentazon	0.014		ug/L	P388895	MS
		Benzovindiflupyr**	0.0020	U	ug/L	P388895	
		Carbamazepine**	9.3E-04	I	ug/L	P388895	
		Clothianidin**	0.0044	I	ug/L	P388895	
		Dinotefuran**	0.0020	U	ug/L	P388895	
		Diuron	0.0053	I	ug/L	P388895	MS, RPD
		Fenuron	0.016	U	ug/L	P388895	
		Fluridone**	0.0084		ug/L	P388895	
		Imazapyr**	0.041		ug/L	P388895	MS
		Hydrocodone**	0.0020	U	ug/L	P388895	
		Ibuprofen**	0.020	U	ug/L	P388895	
		Imidacloprid	0.018		ug/L	P388895	
		Linuron	0.0040	U	ug/L	P388895	
		Mandestrobin**	0.0020	U	ug/L	P388895	
		MCPP	0.0020	U	ug/L	P388895	
		Naproxen**	0.0080	U	ug/L	P388895	MS
		Primidone**	0.0040	U	ug/L	P388895	RPD
		Pyraclostrobin**	0.0020	U	ug/L	P388895	
		Thiamethoxam**	0.0020	U	ug/L	P388895	
		Tolfenpyrad**	0.0020	U	ug/L	P388895	
		Triclopyr**	0.0040	U	ug/L	P388895	

Ref. Method and Comment:

EPA 8321B: MDL for some parameters elevated due to matrix interference. 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 8321B
Batch ID: P388705

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: P388857

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: P388895

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P388895

Component	Result	Code	Units
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: P388705

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	99.2		P	30 - 160
Acetaminophen	80.4		P	30 - 160
Acetamiprid	68.8		P	30 - 160
Afidopyropen	30.5		P	30 - 160
Bentazon	45.8		P	30 - 160
Benzovindiflupyr	63.9		P	30 - 160
Carbamazepine	49.6		P	30 - 160
Clothianidin	63.9		P	30 - 160
Dinotefuran	74.9		P	30 - 160
Diuron	37.2		P	30 - 160
Fenuron	89.8		P	30 - 160
Fluridone	65.1		P	30 - 160
Hydrocodone	92.8		P	30 - 160
Ibuprofen	60.4		P	30 - 160
Imazapyr	90.9		P	30 - 160
Imidacloprid	87.8		P	30 - 160
Linuron	42.7		P	30 - 160
Mandestrobin	67.3		P	30 - 160
MCPP	61.3		P	30 - 160
Naproxen	51.6		P	30 - 160
Primidone	70.3		P	30 - 160
Pyraclostrobin	58.5		P	30 - 160
Thiamethoxam	89.3		P	30 - 160
Tolfenpyrad	40.9		P	30 - 160
Triclopyr	55.6		P	30 - 160

Reference Method: EPA 8321B

Batch ID: P388857

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	69.4		P	40 - 150
AMPA	114		P	40 - 150
Endothall	109		P	40 - 150
Glufosinate	100		P	40 - 150
Glyphosate	104		P	40 - 140
Sucralose	116		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P388895

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	45.5		P	30 - 160
Acetaminophen	53.8		P	30 - 160
Acetamiprid	61.5		P	30 - 160
Afidopyropen	50.6		P	30 - 160
Bentazon	48.3		P	30 - 160
Benzovindiflupyr	65.0		P	30 - 160
Carbamazepine	63.9		P	30 - 160
Clothianidin	101		P	30 - 160
Dinotefuran	84.8		P	30 - 160
Diuron	70.2		P	30 - 160
Fenuron	100		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P388895

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluridone	83.0		P	30 - 160
Hydrocodone	79.0		P	30 - 160
Ibuprofen	48.4		P	30 - 160
Imazapyr	52.0		P	30 - 160
Imidacloprid	77.2		P	30 - 160
Linuron	61.1		P	30 - 160
Mandestrobin	78.8		P	30 - 160
MCPP	58.1		P	30 - 160
Naproxen	45.5		P	30 - 160
Primidone	90.5		P	30 - 160
Pyraclostrobin	58.8		P	30 - 160
Thiamethoxam	85.6		P	30 - 160
Tolfenpyrad	38.6		P	30 - 160
Triclopyr	50.2		P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P388705

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2201953	2,4-D	60.7	85.5	P/P	30 - 160
2201953	Acetaminophen	91.1	96.9	P/P	30 - 160
2201953	Acetamiprid	67.6	74.3	P/P	30 - 160
2201953	Afidopyropen	22.4	30.5	F/P	30 - 160
2201953	Bentazon	25.0	36.1	F/P	30 - 160
2201953	Benzovindiflupyr	52.9	63.2	P/P	30 - 160
2201953	Carbamazepine	38.9	50.0	P/P	30 - 160
2201953	Clothianidin	52.6	65.8	P/P	30 - 160
2201953	Dinotefuran	75.6	90.6	P/P	30 - 160
2201953	Diuron	26.4	36.4	F/P	30 - 160
2201953	Fenuron	76.0	83.3	P/P	30 - 160
2201953	Fluridone	59.9	66.2	P/P	30 - 160
2201953	Hydrocodone	70.5	90.5	P/P	30 - 160
2201953	Ibuprofen	57.1	65.6	P/P	30 - 160
2201953	Imazapyr	75.7	75.5	P/P	30 - 160
2201953	Imidacloprid	103	107	P/P	30 - 160
2201953	Linuron	40.6	45.3	P/P	30 - 160
2201953	Mandestrobin	65.0	74.6	P/P	30 - 160
2201953	MCCP	48.3	65.3	P/P	30 - 160
2201953	Naproxen	36.3	32.2	P/P	30 - 160
2201953	Primidone	64.3	71.1	P/P	30 - 160
2201953	Pyraclostrobin	53.0	57.8	P/P	30 - 160
2201953	Thiamethoxam	85.2	112	P/P	30 - 160
2201953	Tolfenpyrad	32.2	38.4	P/P	30 - 160
2201953	Triclopyr	28.8	54.2	F/P	30 - 160

Reference Method: EPA 8321B

Batch ID: P388857

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2202760	Acesulfame K	89.4	90.0	P/P	40 - 150
2202760	AMPA	120	122	P/P	40 - 150
2202760	Endothall	108	109	P/P	40 - 150
2202760	Glufosinate	97.4	92.7	P/P	40 - 150
2202760	Glyphosate	85.1	86.0	P/P	40 - 140
2202760	Sucralose	122	119	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P388895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2202818	2,4-D	40.9	42.4	P/P	30 - 160
2202818	Acetaminophen	85.6	100	P/P	30 - 160
2202818	Acetamiprid	60.5	51.3	P/P	30 - 160
2202818	Afidopyropen	45.1	34.0	P/P	30 - 160
2202818	Bentazon	20.2	19.8	F/F	30 - 160
2202818	Benzovindiflupyr	57.5	49.0	P/P	30 - 160
2202818	Carbamazepine	49.3	39.3	P/P	30 - 160
2202818	Clothianidin	76.6	66.5	P/P	30 - 160
2202818	Dinotefuran	68.1	63.9	P/P	30 - 160
2202818	Diuron	30.1	20.7	P/F	30 - 160
2202818	Fenuron	61.7	70.3	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P388895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2202818	Fluridone	66.7	51.6	P/P	30 - 160
2202818	Hydrocodone	56.5	57.6	P/P	30 - 160
2202818	Ibuprofen	36.6	35.8	P/P	30 - 160
2202818	Imazapyr	28.2	26.5	F/F	30 - 160
2202818	Imidacloprid	112	95.4	P/P	30 - 160
2202818	Linuron	53.7	54.4	P/P	30 - 160
2202818	Mandestrobin	64.4	58.6	P/P	30 - 160
2202818	MCPP	63.1	58.3	P/P	30 - 160
2202818	Naproxen	32.2	29.6	P/F	30 - 160
2202818	Primidone	63.4	40.6	P/P	30 - 160
2202818	Pyraclostrobin	57.0	50.1	P/P	30 - 160
2202818	Thiamethoxam	83.0	69.4	P/P	30 - 160
2202818	Tolfenpyrad	35.7	32.5	P/P	30 - 160
2202818	Triclopyr	54.4	46.4	P/P	30 - 160

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P388705

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2201953	2,4-D	30.9	Spike	F	0 - 30
2201953	Acetaminophen	6.09	Spike	P	0 - 30
2201953	Acetamiprid	9.32	Spike	P	0 - 30
2201953	Afidopyropen	30.6	Spike	F	0 - 30
2201953	Bentazon	15.7	Spike	P	0 - 30
2201953	Benzovindiflupyr	17.7	Spike	P	0 - 30
2201953	Carbamazepine	24.9	Spike	P	0 - 30
2201953	Clothianidin	22.3	Spike	P	0 - 30
2201953	Dinotefuran	18.1	Spike	P	0 - 30
2201953	Diuron	32.0	Spike	F	0 - 30
2201953	Fenuron	9.21	Spike	P	0 - 30
2201953	Fluridone	8.95	Spike	P	0 - 30
2201953	Hydrocodone	24.8	Spike	P	0 - 30
2201953	Ibuprofen	13.8	Spike	P	0 - 30
2201953	Imazapyr	0.194	Spike	P	0 - 30
2201953	Imidacloprid	3.33	Spike	P	0 - 30
2201953	Linuron	10.8	Spike	P	0 - 30
2201953	Mandestrobin	13.7	Spike	P	0 - 30
2201953	MCPP	29.9	Spike	P	0 - 30
2201953	Naproxen	12.0	Spike	P	0 - 30
2201953	Primidone	10.0	Spike	P	0 - 30
2201953	Pyraclostrobin	8.72	Spike	P	0 - 30
2201953	Thiamethoxam	27.0	Spike	P	0 - 30
2201953	Tolfenpyrad	17.7	Spike	P	0 - 30
2201953	Triclopyr	61.2	Spike	F	0 - 30

Reference Method: EPA 8321B
Batch ID: P388857

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2202760	Acesulfame K	0.707	Spike	P	0 - 30
2202760	AMPA	0.939	Spike	P	0 - 30
2202760	Endothall	0.924	Spike	P	0 - 30
2202760	Glufosinate	4.95	Spike	P	0 - 30
2202760	Glyphosate	1.02	Spike	P	0 - 30
2202760	Sucralose	2.67	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P388895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2202818	2,4-D	2.97	Spike	P	0 - 30
2202818	Acetaminophen	15.7	Spike	P	0 - 30
2202818	Acetamiprid	16.4	Spike	P	0 - 30
2202818	Afidopyropen	28.0	Spike	P	0 - 30
2202818	Bentazon	0.898	Spike	P	0 - 30
2202818	Benzovindiflupyr	15.9	Spike	P	0 - 30
2202818	Carbamazepine	22.4	Spike	P	0 - 30
2202818	Clothianidin	14.1	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P388895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2202818	Dinotefuran	6.44	Spike	P	0 - 30
2202818	Diuron	31.8	Spike	F	0 - 30
2202818	Fenuron	13.0	Spike	P	0 - 30
2202818	Fluridone	20.5	Spike	P	0 - 30
2202818	Hydrocodone	2.04	Spike	P	0 - 30
2202818	Ibuprofen	2.25	Spike	P	0 - 30
2202818	Imazapyr	3.05	Spike	P	0 - 30
2202818	Imidacloprid	15.4	Spike	P	0 - 30
2202818	Linuron	1.34	Spike	P	0 - 30
2202818	Mandestrobin	9.44	Spike	P	0 - 30
2202818	MCPP	8.05	Spike	P	0 - 30
2202818	Naproxen	8.26	Spike	P	0 - 30
2202818	Primidone	43.7	Spike	F	0 - 30
2202818	Pyraclostrobin	12.9	Spike	P	0 - 30
2202818	Thiamethoxam	17.7	Spike	P	0 - 30
2202818	Tolfenpyrad	9.44	Spike	P	0 - 30
2202818	Triclopyr	15.9	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2202374
Field Sample ID: G5CE0073

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	82.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	98.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	47.7	P	30 - 160
EPA 8321B	Diuron-d6	43.2	P	30 - 160
EPA 8321B	Endothall-d6	530	F	30 - 160
EPA 8321B	Endothall-d6	530	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	83.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	83.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	55.4	P	30 - 160
EPA 8321B	Primidone-d5	70.9	P	30 - 160
EPA 8321B	Sucralose-d6	50.1	P	30 - 160
EPA 8321B	Sucralose-d6	50.1	P	30 - 160

Lab Sample ID: 2202375
Field Sample ID: G5CE0098

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	59.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	64.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	58.0	P	30 - 160
EPA 8321B	Diuron-d6	37.4	P	30 - 160
EPA 8321B	Endothall-d6	509	F	30 - 160
EPA 8321B	Endothall-d6	509	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	84.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	84.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	62.7	P	30 - 160
EPA 8321B	Primidone-d5	52.7	P	30 - 160
EPA 8321B	Sucralose-d6	57.4	P	30 - 160
EPA 8321B	Sucralose-d6	57.4	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A101618

Included Lab Sample IDs: 2202374, 2202375

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	69.4	69.1	P/P	50 - 160
Endothall	123	125	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A101643

Included Lab Sample IDs: 2202374, 2202375

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	117	113	P/P	50 - 160
Glufosinate	111	98.7	P/P	50 - 160
Glyphosate	105	104	P/P	50 - 160

Reference Method: EPA 8321B

Run ID: A101652

Included Lab Sample IDs: 2202374

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	125	94.5	P/P	50 - 150
Acetaminophen	114	113	P/P	60 - 160
Acetamiprid	109	116	P/P	50 - 150
Afidopyropen	93.0	78.2	P/P	50 - 150
Benzovindiflupyr	108	92.8	P/P	50 - 150
Carbamazepine	113	97.6	P/P	60 - 150
Clothianidin	96.2	88.4	P/P	60 - 150
Dinotefuran	104	95.5	P/P	50 - 150
Diuron	119	108	P/P	60 - 160
Fenuron	104	104	P/P	60 - 150
Fluridone	94.3	96.0	P/P	60 - 160
Hydrocodone	114	112	P/P	60 - 150
Ibuprofen	123	88.0	P/P	50 - 160
Imazapyr	94.8	78.7	P/P	50 - 160
Imidacloprid	95.7	97.9	P/P	60 - 150
Linuron	85.9	78.6	P/P	60 - 150
Mandestrobin	111	101	P/P	50 - 150
MCPP	98.7	92.3	P/P	50 - 150
Naproxen	81.6	64.1	P/P	50 - 160
Primidone	99.2	90.0	P/P	60 - 150
Pyraclostrobin	106	97.9	P/P	60 - 150
Thiamethoxam	108	112	P/P	50 - 150
Tolfenpyrad	95.8	90.9	P/P	60 - 150
Triclopyr	115	95.0	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A101671

Included Lab Sample IDs: 2202374, 2202375

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	81.4	75.7	P/P	50 - 150
Acetaminophen	108	98.3	P/P	60 - 160
Acetamiprid	121	117	P/P	50 - 150
Afidopyropen	92.7	90.2	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A101671

Included Lab Sample IDs: 2202374, 2202375

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	106	80.7	P/P	50 - 160
Benzovindiflupyr	105	99.9	P/P	50 - 150
Carbamazepine	117	109	P/P	60 - 150
Clothianidin	115	107	P/P	60 - 150
Dinotefuran	97.5	92.4	P/P	50 - 150
Diuron	106	101	P/P	60 - 160
Fenuron	109	106	P/P	60 - 150
Fluridone	93.5	97.3	P/P	60 - 160
Hydrocodone	105	98.8	P/P	60 - 150
Ibuprofen	96.4	79.9	P/P	50 - 160
Imazapyr	124	112	P/P	50 - 160
Imidacloprid	93.2	89.6	P/P	60 - 150
Linuron	93.6	62.6	P/P	60 - 150
Mandestrobin	110	101	P/P	50 - 150
MCPP	91.2	70.2	P/P	50 - 150
Naproxen	126	83.3	P/P	50 - 160
Primidone	95.3	82.2	P/P	60 - 150
Pyraclostrobin	103	97.0	P/P	60 - 150
Thiamethoxam	94.5	91.6	P/P	50 - 150
Tolfenpyrad	94.8	76.5	P/P	60 - 150
Triclopyr	93.9	71.7	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A101686

Included Lab Sample IDs: 2202374, 2202375

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	114	123	P/P	50 - 160

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8321B	2,4-D	99.2	60.7	85.5		30.9
	2,4-D	45.5	40.9	42.4		2.97
	Acesulfame K	69.4	89.4	90.0		0.707
	Acetaminophen	80.4	91.1	96.9		6.09
	Acetaminophen	53.8	85.6	100		15.7
	Acetamiprid	68.8	67.6	74.3		9.32
	Acetamiprid	61.5	60.5	51.3		16.4
	Afidopyropen	30.5	22.4	30.5		30.6
	Afidopyropen	50.6	45.1	34.0		28.0
	AMPA	114	120	122		0.939
	Bentazon	45.8	25.0	36.1		15.7
	Bentazon	48.3	20.2	19.8		0.898
	Benzovindiflupyr	63.9	52.9	63.2		17.7
	Benzovindiflupyr	65.0	57.5	49.0		15.9
	Carbamazepine	49.6	38.9	50.0		24.9
	Carbamazepine	63.9	49.3	39.3		22.4
	Clothianidin	63.9	52.6	65.8		22.3
	Clothianidin	101	76.6	66.5		14.1
	Dinotefuran	74.9	75.6	90.6		18.1
	Dinotefuran	84.8	68.1	63.9		6.44
	Diuron	37.2	26.4	36.4		32.0
	Diuron	70.2	30.1	20.7		31.8
	Endothall	109	108	109		0.924
	Fenuron	89.8	76.0	83.3		9.21
	Fenuron	100	61.7	70.3		13.0
	Fluridone	65.1	59.9	66.2		8.95
	Fluridone	83.0	66.7	51.6		20.5
	Glufosinate	100	97.4	92.7		4.95
	Glyphosate	104	85.1	86.0		1.02
	Hydrocodone	92.8	70.5	90.5		24.8
	Hydrocodone	79.0	56.5	57.6		2.04
	Ibuprofen	60.4	57.1	65.6		13.8
	Ibuprofen	48.4	36.6	35.8		2.25
	Imazapyr	90.9	75.7	75.5		0.194
	Imazapyr	52.0	28.2	26.5		3.05
	Imidacloprid	87.8	103	107		3.33
	Imidacloprid	77.2	112	95.4		15.4
	Linuron	42.7	40.6	45.3		10.8
	Linuron	61.1	53.7	54.4		1.34
	Mandestrobin	67.3	65.0	74.6		13.7
	Mandestrobin	78.8	64.4	58.6		9.44
	MCPP	61.3	48.3	65.3		29.9
	MCPP	58.1	63.1	58.3		8.05
	Naproxen	51.6	36.3	32.2		12.0
	Naproxen	45.5	32.2	29.6		8.26
	Primidone	70.3	64.3	71.1		10.0
	Primidone	90.5	63.4	40.6		43.7
	Pyraclostrobin	58.5	53.0	57.8		8.72
	Pyraclostrobin	58.8	57.0	50.1		12.9
	Sucralose	116	122	119		2.67
	Thiamethoxam	89.3	85.2	112		27.0
	Thiamethoxam	85.6	83.0	69.4		17.7
	Tolfenpyrad	40.9	32.2	38.4		17.7
	Tolfenpyrad	38.6	35.7	32.5		9.44

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS	MS		
EPA 8321B	Triclopyr	55.6	28.8	54.2		61.2
	Triclopyr	50.2	54.4	46.4		15.9

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2202374, 2202375
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2202374, 2202375

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	10/15/2020	10/19/2020 09:00	Hoor Shaik	10/20/2020 15:27	Juyoung Kim	2202374
	10/15/2020	10/19/2020 09:00	Hoor Shaik	10/21/2020 19:45	Juyoung Kim	2202374
	10/15/2020	10/19/2020 10:15	Rebecca Ware	10/19/2020 14:13	Rebecca Ware	2202374
	10/15/2020	10/19/2020 10:15	Rebecca Ware	10/19/2020 14:27	Rebecca Ware	2202375
	10/15/2020	10/19/2020 10:15	Rebecca Ware	10/20/2020 14:53	Rebecca Ware	2202374
	10/15/2020	10/19/2020 10:15	Rebecca Ware	10/20/2020 15:04	Rebecca Ware	2202375
	10/15/2020	10/19/2020 10:15	Rebecca Ware	10/22/2020 03:26	Rebecca Ware	2202374
	10/15/2020	10/19/2020 10:15	Rebecca Ware	10/22/2020 03:38	Rebecca Ware	2202375
	10/15/2020	10/20/2020 13:30	Hoor Shaik	10/21/2020 23:13	Juyoung Kim	2202375