

Chemical Analysis Report

SO-DIST-2021-03-30-01

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

Event Description: **2021 SMP: Hatchee Cricks**

Request ID: **RQ-2021-03-29-73**

Customer: **SO-DIST**

Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 14-APR-2021 18:18



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: Pollywog Creek

Collection Date/Time: 03/29/2021 12:05

Field ID: G3SD0189

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2234529	EPA 8321B	2,4-D	0.0020	U	ug/L	P395714	
		Acesulfame K	0.86		ug/L	P395638	MS
		2,4,5-T	0.0040	U	ug/L	P395714	
		AMPA	0.10	U	ug/L	P395638	
		Sucralose	0.50		ug/L	P395638	
		Acetaminophen	0.082	VJ	ug/L	P395714	MS
		Acetamiprid	0.0020	U	ug/L	P395714	
		Endothall	0.25	U	ug/L	P395638	
		Glufosinate	0.10	U	ug/L	P395638	
		Glyphosate	0.10	U	ug/L	P395638	MS
		Afidopyropen	0.0020	U	ug/L	P395714	
		Bentazon	0.0034		ug/L	P395714	
		Benzovindiflupyr	0.0020	U	ug/L	P395714	
		Carbamazepine	8.0E-04	U	ug/L	P395714	
		Clothianidin	0.0020	U	ug/L	P395714	
		Dinotefuran	0.0020	U	ug/L	P395714	
		Diuron	0.0020	U	ug/L	P395714	
		Fenuron	0.016	U	ug/L	P395714	
		Fluridone	8.0E-04	U	ug/L	P395714	
		Imazapyr	0.0040	U	ug/L	P395714	
		Hydrocodone	0.0020	U	ug/L	P395714	
		Ibuprofen	0.020	U	ug/L	P395714	
		Imidacloprid	0.0020	U	ug/L	P395714	
		Linuron	0.0040	U	ug/L	P395714	
		Mandestrobin	0.0020	U	ug/L	P395714	
		MCPP	0.0020	U	ug/L	P395714	
		Naproxen	0.0080	U	ug/L	P395714	
		Primidone	0.0046	I	ug/L	P395714	
		Pyraclostrobin	0.0020	U	ug/L	P395714	
		Thiamethoxam	0.0020	U	ug/L	P395714	
		Tolfenpyrad	0.0020	U	ug/L	P395714	
		Triclopyr	0.0040	U	ug/L	P395714	

Ref. Method and Comment:

EPA 8321B: V - Due to detect in the extraction blank. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P395638

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: P395714

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.034		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: P395638

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	117		P	40 - 150
AMPA	96.4		P	40 - 150
Endothall	74.0		P	40 - 150
Glufosinate	100		P	40 - 150
Glyphosate	116		P	40 - 140
Sucralose	96.0		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P395714

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	111		P	30 - 160
2,4,5-T	96.1		P	30 - 160
Acetaminophen	114		P	30 - 160
Acetamiprid	89.5		P	30 - 160
Afidopyropen	31.0		P	30 - 160
Bentazon	93.5		P	30 - 160
Benzovindiflupyr	88.2		P	30 - 160
Carbamazepine	100		P	30 - 160
Clothianidin	95.6		P	30 - 160
Dinotefuran	94.0		P	30 - 160
Diuron	73.9		P	30 - 160
Fenuron	99.2		P	30 - 160
Fluridone	86.7		P	30 - 160
Hydrocodone	97.5		P	30 - 160
Ibuprofen	84.4		P	30 - 160
Imazapyr	91.0		P	30 - 160
Imidacloprid	107		P	30 - 160
Linuron	79.8		P	30 - 160
Mandestrobin	99.3		P	30 - 160
MCPP	102		P	30 - 160
Naproxen	76.3		P	30 - 160
Primidone	94.9		P	30 - 160
Pyraclostrobin	81.4		P	30 - 160
Thiamethoxam	104		P	30 - 160
Tolfenpyrad	52.9		P	30 - 160
Triclopyr	101		P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P395638

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234101	Acesulfame K	192	203	F/F	40 - 150
2234101	AMPA	108	112	P/P	40 - 150
2234101	Endothall	101	84.7	P/P	40 - 150
2234101	Glufosinate	119	104	P/P	40 - 150
2234101	Glyphosate	64.8	176	P/F	40 - 140
2234101	Sucralose	113	112	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P395714

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234529	2,4-D	90.2	94.4	P/P	30 - 160
2234529	2,4,5-T	75.9	79.2	P/P	30 - 160
2234529	Acetaminophen	15.2	15.1	F/F	30 - 160
2234529	Acetamiprid	86.5	93.2	P/P	30 - 160
2234529	Afidopyropen	75.0	85.4	P/P	30 - 160
2234529	Bentazon	51.4	56.1	P/P	30 - 160
2234529	Benzovindiflupyr	85.4	88.1	P/P	30 - 160
2234529	Carbamazepine	84.2	85.3	P/P	30 - 160
2234529	Clothianidin	96.8	106	P/P	30 - 160
2234529	Dinotefuran	108	116	P/P	30 - 160
2234529	Diuron	53.4	53.3	P/P	30 - 160
2234529	Fenuron	76.6	80.5	P/P	30 - 160
2234529	Fluridone	81.2	82.9	P/P	30 - 160
2234529	Hydrocodone	98.7	108	P/P	30 - 160
2234529	Ibuprofen	68.3	80.4	P/P	30 - 160
2234529	Imazapyr	105	104	P/P	30 - 160
2234529	Imidacloprid	147	157	P/P	30 - 160
2234529	Linuron	64.9	69.0	P/P	30 - 160
2234529	Mandestrobin	88.1	95.1	P/P	30 - 160
2234529	MCP	86.0	86.7	P/P	30 - 160
2234529	Naproxen	63.0	68.7	P/P	30 - 160
2234529	Primidone	98.6	103	P/P	30 - 160
2234529	Pyraclostrobin	82.1	87.3	P/P	30 - 160
2234529	Thiamethoxam	137	144	P/P	30 - 160
2234529	Tolfenpyrad	50.3	58.4	P/P	30 - 160
2234529	Triclopyr	82.9	90.5	P/P	30 - 160

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P395638

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234101	Acesulfame K	5.43	Spike	P	0 - 30
2234101	AMPA	2.77	Spike	P	0 - 30
2234101	Endothall	17.9	Spike	P	0 - 30
2234101	Glufosinate	14.3	Spike	P	0 - 30
2234101	Glyphosate	15.7	Spike	P	0 - 30
2234101	Sucralose	1.37	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P395714

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234529	2,4-D	4.60	Spike	P	0 - 30
2234529	2,4,5-T	4.28	Spike	P	0 - 30
2234529	Acetaminophen	0.137	Spike	P	0 - 30
2234529	Acetamiprid	7.46	Spike	P	0 - 30
2234529	Afidopyropen	12.9	Spike	P	0 - 30
2234529	Bentazon	4.85	Spike	P	0 - 30
2234529	Benzovindiflupyr	3.21	Spike	P	0 - 30
2234529	Carbamazepine	1.33	Spike	P	0 - 30
2234529	Clothianidin	9.41	Spike	P	0 - 30
2234529	Dinotefuran	7.29	Spike	P	0 - 30
2234529	Diuron	0.238	Spike	P	0 - 30
2234529	Fenuron	4.90	Spike	P	0 - 30
2234529	Fluridone	2.04	Spike	P	0 - 30
2234529	Hydrocodone	9.34	Spike	P	0 - 30
2234529	Ibuprofen	16.3	Spike	P	0 - 30
2234529	Imazapyr	0.841	Spike	P	0 - 30
2234529	Imidacloprid	7.06	Spike	P	0 - 30
2234529	Linuron	6.00	Spike	P	0 - 30
2234529	Mandestrobin	7.61	Spike	P	0 - 30
2234529	MCPP	0.768	Spike	P	0 - 30
2234529	Naproxen	8.53	Spike	P	0 - 30
2234529	Primidone	3.95	Spike	P	0 - 30
2234529	Pyraclostrobin	6.15	Spike	P	0 - 30
2234529	Thiamethoxam	4.84	Spike	P	0 - 30
2234529	Tolfenpyrad	15.0	Spike	P	0 - 30
2234529	Triclopyr	8.77	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2234529

Field Sample ID: G3SD0189

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	100	P	30 - 160
EPA 8321B	Acetaminophen-d4	120	P	30 - 160
EPA 8321B	Carbamazepine-d10	80.4	P	30 - 160
EPA 8321B	Diuron-d6	58.8	P	30 - 160
EPA 8321B	Endothall-d6	108	P	40 - 160
EPA 8321B	Endothall-d6	108	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	123	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	123	P	40 - 160
EPA 8321B	Ibuprofen-d3	79.0	P	30 - 160
EPA 8321B	Primidone-d5	101	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A104387
Included Lab Sample IDs: 2234529

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	114	125	P/P	40 - 160
AMPA	120	119	P/P	40 - 160
Endothall	63.6	72.4	P/P	40 - 160
Glufosinate	101	100	P/P	40 - 160
Glyphosate	159	119	P/P	40 - 160

Reference Method: EPA 8321B
Run ID: A104508
Included Lab Sample IDs: 2234529

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	92.5	96.4	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A104573
Included Lab Sample IDs: 2234529

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	103	110	P/P	50 - 150
2,4,5-T	111	110	P/P	50 - 150
Acetaminophen	111	110	P/P	60 - 160
Acetamiprid	107	107	P/P	50 - 150
Afidopyropen	120	117	P/P	50 - 150
Bentazon	100	110	P/P	50 - 160
Benzovindiflupyr	113	108	P/P	50 - 160
Carbamazepine	112	105	P/P	60 - 150
Clothianidin	105	104	P/P	60 - 150
Dinotefuran	100	93.4	P/P	50 - 150
Diuron	107	109	P/P	60 - 160
Fenuron	106	106	P/P	60 - 150
Fluridone	110	108	P/P	60 - 160
Hydrocodone	107	110	P/P	60 - 150
Ibuprofen	107	88.5	P/P	50 - 160
Imazapyr	101	101	P/P	50 - 160
Imidacloprid	99.4	99.5	P/P	60 - 150
Linuron	107	104	P/P	60 - 150
Mandestrobin	112	112	P/P	50 - 150
MCPP	106	102	P/P	50 - 150
Naproxen	107	114	P/P	50 - 160
Primidone	107	95.6	P/P	60 - 150
Pyraclostrobin	110	103	P/P	60 - 150
Thiamethoxam	105	107	P/P	50 - 150
Tolfenpyrad	102	97.4	P/P	60 - 150
Triclopyr	102	104	P/P	50 - 150

* 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	111	90.2	94.4		4.60
	2,4,5-T	96.1	75.9	79.2		4.28
	Acesulfame K	117	192	203		5.43
	Acetaminophen	114	15.2	15.1		0.137
	Acetamiprid	89.5	86.5	93.2		7.46
	Afidopyropen	31.0	75.0	85.4		12.9
	AMPA	96.4	108	112		2.77
	Bentazon	93.5	51.4	56.1		4.85
	Benzovindiflupyr	88.2	85.4	88.1		3.21
	Carbamazepine	100	84.2	85.3		1.33
	Clothianidin	95.6	96.8	106		9.41
	Dinotefuran	94.0	108	116		7.29
	Diuron	73.9	53.4	53.3		0.238
	Endothall	74.0	101	84.7		17.9
	Fenuron	99.2	76.6	80.5		4.90
	Fluridone	86.7	81.2	82.9		2.04
	Glufosinate	100	119	104		14.3
	Glyphosate	116	64.8	176		15.7
	Hydrocodone	97.5	98.7	108		9.34
	Ibuprofen	84.4	68.3	80.4		16.3
	Imazapyr	91.0	105	104		0.841
	Imidacloprid	107	147	157		7.06
	Linuron	79.8	64.9	69.0		6.00
	Mandestrobin	99.3	88.1	95.1		7.61
	MCPP	102	86.0	86.7		0.768
	Naproxen	76.3	63.0	68.7		8.53
	Primidone	94.9	98.6	103		3.95
	Pyraclostrobin	81.4	82.1	87.3		6.15
	Sucralose	96.0	113	112		1.37
	Thiamethoxam	104	137	144		4.84
	Tolfenpyrad	52.9	50.3	58.4		15.0
	Triclopyr	101	82.9	90.5		8.77

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2234529
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2234529

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	03/30/2021	03/30/2021 14:35	Rebecca Ware	03/30/2021 15:09	Rebecca Ware	2234529
	03/30/2021	03/30/2021 14:35	Rebecca Ware	04/05/2021 21:33	Rebecca Ware	2234529
	03/30/2021	04/01/2021 12:00	Hoor Shaik	04/02/2021 01:53	Juyoung Kim	2234529