

Chemical Analysis Report

SO-DIST-2021-02-12-03

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

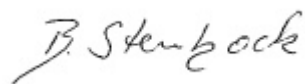
Event Description: **2021 SMP : Sarasota Cricks**
Request ID: **RQ-2021-02-08-49**
Customer: **SO-DIST**
Project ID: **SMP**

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Date Certified: 02-MAR-2021 13:13



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: South Creek near Legacy

Collection Date/Time: 02/11/2021 10:05

Field ID: G3SD0183

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2225185	EPA 8276	Chlordane	5.9	U	ng/L	P393752	MS
		Toxaphene	35	UJ	ng/L	P393752	LCS
2225186	EPA 8321B	2,4-D	0.057		ug/L	P393796	
		Acesulfame K	0.10	U	ug/L	P393743	MS
		AMPA	1.8		ug/L	P393743	MS
		Sucralose	2.2		ug/L	P393743	
		Acetaminophen**	0.0080	U	ug/L	P393796	
		Acetamiprid**	0.0020	U	ug/L	P393796	
		Endothall	0.25	U	ug/L	P393743	
		Glufosinate	0.10	U	ug/L	P393743	MS
		Glyphosate	3.1		ug/L	P393743	MS
		Afidopyropen**	0.0020	U	ug/L	P393796	
		Bentazon	0.016		ug/L	P393796	MS
		Benzovindiflupyr**	0.0020	U	ug/L	P393796	
		Carbamazepine**	0.0030	I	ug/L	P393796	
		Clothianidin**	0.0020	U	ug/L	P393796	
		Dinotefuran**	0.0020	U	ug/L	P393796	
		Diuron	0.0031	I	ug/L	P393796	
		Fenuron	0.016	U	ug/L	P393796	
		Fluridone**	0.16		ug/L	P393796	
		Imazapyr**	0.22		ug/L	P393796	
		Hydrocodone**	0.0020	U	ug/L	P393796	
		Ibuprofen**	0.020	U	ug/L	P393796	
		Imidacloprid	0.0046	I	ug/L	P393796	
		Linuron	0.0040	U	ug/L	P393796	
		Mandestrobin**	0.0020	U	ug/L	P393796	
		MCPP	0.0020	U	ug/L	P393796	
		Naproxen**	0.0080	U	ug/L	P393796	
		Primidone**	0.014	I	ug/L	P393796	
		Pyraclostrobin**	0.0020	U	ug/L	P393796	
		Thiamethoxam**	0.0020	U	ug/L	P393796	
		Tolfenpyrad**	0.0020	U	ug/L	P393796	
		Triclopyr**	0.0040	U	ug/L	P393796	

Ref. Method and Comment:

EPA 8276: Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8276
Batch ID: P393752

Component	Result	Code	Units
Chlordane	5.0	U	ng/L
Toxaphene	30	U	ng/L

Reference Method: EPA 8321B
Batch ID: P393743

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: P393796

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8276

Batch ID: P393752

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	107	100	P/P	56 - 117
Toxaphene	128	120	F/F	45 - 116

Reference Method: EPA 8321B

Batch ID: P393743

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	96.6		P	40 - 150
AMPA	115		P	40 - 150
Endothall	143		P	40 - 150
Glufosinate	127		P	40 - 150
Glyphosate	114		P	40 - 140
Sucralose	98.0		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P393796

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	129		P	30 - 160
Acetaminophen	105		P	30 - 160
Acetamiprid	104		P	30 - 160
Afidopyropen	86.0		P	30 - 160
Bentazon	81.0		P	30 - 160
Benzovindiflupyr	78.1		P	30 - 160
Carbamazepine	107		P	30 - 160
Clothianidin	107		P	30 - 160
Dinotefuran	102		P	30 - 160
Diuron	82.9		P	30 - 160
Fenuron	99.7		P	30 - 160
Fluridone	90.1		P	30 - 160
Hydrocodone	107		P	30 - 160
Ibuprofen	83.2		P	30 - 160
Imazapyr	103		P	30 - 160
Imidacloprid	118		P	30 - 160
Linuron	84.1		P	30 - 160
Mandestrobin	89.6		P	30 - 160
MCPP	111		P	30 - 160
Naproxen	69.2		P	30 - 160
Primidone	115		P	30 - 160
Pyraclostrobin	74.5		P	30 - 160
Thiamethoxam	121		P	30 - 160
Tolfenpyrad	40.7		P	30 - 160
Triclopyr	101		P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8276
Batch ID: P393752

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2225283	Chlordane	142	114	F/P	47 - 128
2225283	Toxaphene	161	147	P/P	11 - 163

Reference Method: EPA 8321B
Batch ID: P393743

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224945	Acesulfame K	5.72	5.08	F/F	40 - 150
2224945	AMPA	12.2	11.8	F/F	40 - 150
2224945	Endothall	139	139	P/P	40 - 150
2224945	Glufosinate	9.96	9.16	F/F	40 - 150
2224945	Glyphosate	493	517	F/F	40 - 140
2224945	Sucralose	81.2	92.5	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P393796

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2225022	2,4-D	91.0	95.1	P/P	30 - 160
2225022	Acetaminophen	125	120	P/P	30 - 160
2225022	Acetamiprid	75.4	76.8	P/P	30 - 160
2225022	Afidopyropen	71.0	60.9	P/P	30 - 160
2225022	Bentazon	26.0	41.6	F/P	30 - 160
2225022	Benzovindiflupyr	77.4	76.3	P/P	30 - 160
2225022	Carbamazepine	72.6	75.9	P/P	30 - 160
2225022	Clothianidin	87.9	108	P/P	30 - 160
2225022	Dinotefuran	106	108	P/P	30 - 160
2225022	Diuron	52.7	52.0	P/P	30 - 160
2225022	Fenuron	60.2	67.6	P/P	30 - 160
2225022	Fluridone	78.7	75.8	P/P	30 - 160
2225022	Hydrocodone	87.4	92.7	P/P	30 - 160
2225022	Ibuprofen	77.7	85.9	P/P	30 - 160
2225022	Imazapyr	70.9	84.8	P/P	30 - 160
2225022	Imidacloprid	133	137	P/P	30 - 160
2225022	Linuron	68.8	66.3	P/P	30 - 160
2225022	Mandestrobin	82.5	79.0	P/P	30 - 160
2225022	MCPP	88.4	87.2	P/P	30 - 160
2225022	Naproxen	59.8	64.9	P/P	30 - 160
2225022	Primidone	79.9	101	P/P	30 - 160
2225022	Pyraclostrobin	79.7	81.6	P/P	30 - 160
2225022	Thiamethoxam	130	142	P/P	30 - 160
2225022	Tolfenpyrad	53.3	64.2	P/P	30 - 160
2225022	Triclopyr	92.0	85.6	P/P	30 - 160

Quality Assurance Report Precision

Reference Method: EPA 8276
Batch ID: P393752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2225283	Chlordane	21.5	Spike	P	0 - 30
2225283	Toxaphene	8.76	Spike	P	0 - 30
LFB	Chlordane	6.84	LCS	P	0 - 30
LFB	Toxaphene	6.76	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P393743

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224945	Acesulfame K	11.9	Spike	P	0 - 30
2224945	AMPA	3.66	Spike	P	0 - 30
2224945	Endothall	0.576	Spike	P	0 - 30
2224945	Glufosinate	8.37	Spike	P	0 - 30
2224945	Glyphosate	4.72	Spike	P	0 - 30
2224945	Sucralose	11.3	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P393796

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2225022	2,4-D	4.44	Spike	P	0 - 30
2225022	Acetaminophen	3.97	Spike	P	0 - 30
2225022	Acetamiprid	1.86	Spike	P	0 - 30
2225022	Afidopyropen	15.2	Spike	P	0 - 30
2225022	Bentazon	14.9	Spike	P	0 - 30
2225022	Benzovindiflupyr	1.45	Spike	P	0 - 30
2225022	Carbamazepine	4.43	Spike	P	0 - 30
2225022	Clothianidin	19.6	Spike	P	0 - 30
2225022	Dinotefuran	2.37	Spike	P	0 - 30
2225022	Diuron	1.32	Spike	P	0 - 30
2225022	Fenuron	11.7	Spike	P	0 - 30
2225022	Fluridone	2.76	Spike	P	0 - 30
2225022	Hydrocodone	5.85	Spike	P	0 - 30
2225022	Ibuprofen	10.1	Spike	P	0 - 30
2225022	Imazapyr	13.6	Spike	P	0 - 30
2225022	Imidacloprid	2.42	Spike	P	0 - 30
2225022	Linuron	3.67	Spike	P	0 - 30
2225022	Mandestrobin	4.27	Spike	P	0 - 30
2225022	MCPP	1.44	Spike	P	0 - 30
2225022	Naproxen	8.15	Spike	P	0 - 30
2225022	Primidone	23.0	Spike	P	0 - 30
2225022	Pyraclostrobin	2.39	Spike	P	0 - 30
2225022	Thiamethoxam	8.27	Spike	P	0 - 30
2225022	Tolfenpyrad	18.4	Spike	P	0 - 30
2225022	Triclopyr	7.20	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2225185
Field Sample ID: G3SD0183

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8276	Decachlorobiphenyl	53.9	P	29 - 92.0
EPA 8276	PCNB	87.7	P	43 - 134

Lab Sample ID: 2225186
Field Sample ID: G3SD0183

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	96.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	121	P	30 - 160
EPA 8321B	Carbamazepine-d10	62.5	P	30 - 160
EPA 8321B	Diuron-d6	50.6	P	30 - 160
EPA 8321B	Endothall-d6	130	P	30 - 160
EPA 8321B	Endothall-d6	130	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	128	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	128	P	30 - 160
EPA 8321B	Ibuprofen-d3	67.6	P	30 - 160
EPA 8321B	Primidone-d5	80.4	P	30 - 160
EPA 8321B	Sucralose-d6	68.2	P	30 - 160
EPA 8321B	Sucralose-d6	68.2	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A103625
 Included Lab Sample IDs: 2225186

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	74.4	83.3	P/P	60 - 160
AMPA	103	120	P/P	40 - 160
Endothall	147	143	P/P	60 - 160
Glufosinate	117	118	P/P	60 - 200
Glyphosate	113	110	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A103647
 Included Lab Sample IDs: 2225186

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	101	93.1	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A103681
 Included Lab Sample IDs: 2225186

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	104	107	P/P	50 - 150
Acetaminophen	105	97.6	P/P	60 - 160
Acetamiprid	116	116	P/P	50 - 150
Afidopyropen	100	96.0	P/P	50 - 150
Bentazon	122	115	P/P	50 - 160
Benzovindiflupyr	104	88.8	P/P	50 - 160
Carbamazepine	114	103	P/P	60 - 150
Clothianidin	108	111	P/P	60 - 150
Dinotefuran	102	104	P/P	50 - 150
Diuron	133	122	P/P	60 - 160
Fenuron	101	90.8	P/P	60 - 150
Fluridone	134	118	P/P	60 - 160
Hydrocodone	109	99.1	P/P	60 - 150
Ibuprofen	103	84.6	P/P	50 - 160
Imazapyr	99.1	125	P/P	50 - 160
Imidacloprid	90.9	97.7	P/P	60 - 150
Linuron	111	102	P/P	60 - 150
Mandestrobin	106	97.4	P/P	50 - 150
MCPP	105	105	P/P	50 - 150
Naproxen	109	96.8	P/P	50 - 160
Primidone	103	96.9	P/P	60 - 150
Pyraclostrobin	114	104	P/P	60 - 150
Thiamethoxam	115	125	P/P	50 - 150
Tolfenpyrad	111	118	P/P	60 - 150
Triclopyr	108	95.6	P/P	50 - 150

Reference Method: EPA 8276
 Run ID: A103753
 Included Lab Sample IDs: 2225185

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	98.9		P	80 - 120
Toxaphene	90.1		P	80 - 120

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		LCS	Precision	MS
							SMP	
EPA 8276	Chlordane	107	100	142	114	6.84		21.5
	Toxaphene	128	120	161	147	6.76		8.76
EPA 8321B	2,4-D	129		91.0	95.1			4.44
	Acesulfame K	96.6		5.72	5.08			11.9
	Acetaminophen	105		125	120			3.97
	Acetamiprid	104		75.4	76.8			1.86
	Afidopyropen	86.0		71.0	60.9			15.2
	AMPA	115		12.2	11.8			3.66
	Bentazon	81.0		26.0	41.6			14.9
	Benzovindiflupyr	78.1		77.4	76.3			1.45
	Carbamazepine	107		72.6	75.9			4.43
	Clothianidin	107		87.9	108			19.6
	Dinotefuran	102		106	108			2.37
	Diuron	82.9		52.7	52.0			1.32
	Endothall	143		139	139			0.576
	Fenuron	99.7		60.2	67.6			11.7
	Fluridone	90.1		78.7	75.8			2.76
	Glufosinate	127		9.96	9.16			8.37
	Glyphosate	114		493	517			4.72
	Hydrocodone	107		87.4	92.7			5.85
	Ibuprofen	83.2		77.7	85.9			10.1
	Imazapyr	103		70.9	84.8			13.6
	Imidacloprid	118		133	137			2.42
	Linuron	84.1		68.8	66.3			3.67
	Mandestrobin	89.6		82.5	79.0			4.27
	MCPP	111		88.4	87.2			1.44
	Naproxen	69.2		59.8	64.9			8.15
	Primidone	115		79.9	101			23.0
	Pyraclostrobin	74.5		79.7	81.6			2.39
	Sucralose	98.0		81.2	92.5			11.3
	Thiamethoxam	121		130	142			8.27
	Tolfenpyrad	40.7		53.3	64.2			18.4
	Triclopyr	101		92.0	85.6			7.20

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2225185
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2225186
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2225186

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8276	02/12/2021	02/16/2021 08:00	Fe-Val Siddell	02/24/2021 13:13	Arthur Maknenko	2225185
EPA 8321B	02/12/2021	02/15/2021 10:00	Rebecca Ware	02/15/2021 13:58	Rebecca Ware	2225186
	02/12/2021	02/15/2021 10:00	Rebecca Ware	02/18/2021 03:31	Rebecca Ware	2225186
	02/12/2021	02/17/2021 10:00	Hoor Shaik	02/18/2021 03:38	Juyoung Kim	2225186