

Chemical Analysis Report

SO-DIST-2021-06-10-02

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

Event Description: **2021 SMP : Sarasota Cricks**
Request ID: **RQ-2021-06-07-47**
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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Date Certified: 28-JUN-2021 10:48



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: 06/09/2021 09:05

Field ID: G3SD0183

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2254377	EPA 8276	Chlordane	5.9	I	ng/L	P399658	
		Toxaphene	31	U	ng/L	P399658	
2254386	EPA 8321B	2,4-D	0.0038	I	ug/L	P399742	
		Acesulfame K	0.10	U	ug/L	P399425	
		AMPA	0.96		ug/L	P399425	
		2,4,5-T	0.0040	UJ	ug/L	P399742	MS
		Acetaminophen	0.017	I	ug/L	P399742	
		Acetamiprid	0.0020	U	ug/L	P399742	
		Endothall	0.25	U	ug/L	P399425	
		Glufosinate	0.10	U	ug/L	P399425	
		Glyphosate	0.10	U	ug/L	P399425	
		Afidopyropen	0.0020	U	ug/L	P399742	
		Bentazon	0.012		ug/L	P399742	
		Sucralose	3.6		ug/L	P399425	
		Benzovindiflupyr	0.0020	U	ug/L	P399742	
		Carbamazepine	0.015		ug/L	P399742	
		Clothianidin	0.0020	U	ug/L	P399742	
		Dinotefuran	0.0020	U	ug/L	P399742	
		Diuron	0.0020	U	ug/L	P399742	
		Fenuron	0.016	U	ug/L	P399742	
		Fluridone	0.016		ug/L	P399742	
		Imazapyr	0.094		ug/L	P399742	
		Hydrocodone	0.0020	U	ug/L	P399742	
		Ibuprofen	0.020	U	ug/L	P399742	
		Imidacloprid	0.0020	I J	ug/L	P399742	MS
		Linuron	0.0040	U	ug/L	P399742	
		Mandestrobin	0.0020	U	ug/L	P399742	
		MCP	0.0034	I J	ug/L	P399742	MS
		Naproxen	0.0080	U	ug/L	P399742	
		Primidone	0.050		ug/L	P399742	
		Pyraclostrobin	0.0020	U	ug/L	P399742	
		Thiamethoxam	0.0020	U	ug/L	P399742	
		Tolfenpyrad	0.0020	U	ug/L	P399742	
		Triclopyr	0.0040	UJ	ug/L	P399742	MS

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8276

Batch ID: P399658

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

Reference Method: EPA 8321B

Batch ID: P399425

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: P399742

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	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: P399658

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	104	95.5	P/P	47 - 128
Toxaphene	91.4	97.5	P/P	11 - 163

Reference Method: EPA 8321B

Batch ID: P399425

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	83.0		P	40 - 150
AMPA	96.0		P	40 - 150
Endothall	108		P	40 - 150
Glufosinate	110		P	40 - 150
Glyphosate	112		P	40 - 150
Sucralose	93.2		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P399742

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	106		P	30 - 160
2,4,5-T	99.3		P	30 - 160
Acetaminophen	60.6		P	30 - 150
Acetamiprid	78.4		P	30 - 160
Afidopyropen	73.3		P	30 - 160
Bentazon	39.2		P	30 - 150
Benzovindiflupyr	78.0		P	30 - 160
Carbamazepine	76.5		P	30 - 160
Clothianidin	77.5		P	30 - 160
Dinotefuran	68.1		P	30 - 160
Diuron	66.8		P	30 - 160
Fenuron	85.5		P	30 - 160
Fluridone	83.2		P	30 - 160
Hydrocodone	81.6		P	30 - 160
Ibuprofen	65.1		P	30 - 160
Imazapyr	91.7		P	30 - 160
Imidacloprid	72.3		P	30 - 160
Linuron	59.6		P	30 - 160
Mandestrobin	88.0		P	30 - 160
MCPP	147		P	30 - 160
Naproxen	81.4		P	30 - 160
Primidone	86.5		P	30 - 160
Pyraclostrobin	62.0		P	30 - 160
Thiamethoxam	52.4		P	30 - 160
Tolfenpyrad	47.0		P	30 - 160
Triclopyr	112		P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8276

Batch ID: P399658

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254651	Chlordane	98.4	93.6	P/P	47 - 128
2254651	Toxaphene	92.4	85.3	P/P	11 - 163

Reference Method: EPA 8321B

Batch ID: P399425

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2253793	Acesulfame K	115	114	P/P	40 - 150
2253793	AMPA	79.8	83.5	P/P	40 - 150
2253793	Endothall	58.6	70.1	P/P	40 - 150
2253793	Glufosinate	115	119	P/P	40 - 150
2253793	Glyphosate	102	102	P/P	40 - 150
2253793	Sucralose	100	111	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P399742

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254386	2,4-D	127	139	P/P	30 - 160
2254386	2,4,5-T	150	161	P/F	30 - 160
2254386	Acetaminophen	48.3	51.9	P/P	30 - 150
2254386	Acetamiprid	90.4	85.9	P/P	30 - 160
2254386	Afidopyropen	81.3	86.6	P/P	30 - 160
2254386	Benzovindiflupyr	73.8	78.6	P/P	30 - 160
2254386	Carbamazepine	77.5	70.6	P/P	30 - 160
2254386	Clothianidin	109	101	P/P	30 - 160
2254386	Dinotefuran	97.4	98.4	P/P	30 - 160
2254386	Diuron	69.0	64.6	P/P	30 - 160
2254386	Fenuron	79.8	81.6	P/P	30 - 160
2254386	Fluridone	86.1	82.8	P/P	30 - 160
2254386	Hydrocodone	83.6	87.4	P/P	30 - 160
2254386	Ibuprofen	65.0	85.4	P/P	30 - 160
2254386	Imidacloprid	157	162	P/F	30 - 160
2254386	Linuron	74.5	80.2	P/P	30 - 160
2254386	Mandestrobin	92.8	97.3	P/P	30 - 160
2254386	MCPP	199	213	F/F	30 - 160
2254386	Naproxen	94.0	101	P/P	30 - 160
2254386	Primidone	104	85.9	P/P	30 - 160
2254386	Pyraclostrobin	74.7	65.6	P/P	30 - 160
2254386	Thiamethoxam	119	116	P/P	30 - 160
2254386	Tolfenpyrad	48.4	64.3	P/P	30 - 160
2254386	Triclopyr	155	161	P/F	30 - 160

Quality Assurance Report Precision

Reference Method: EPA 8276

Batch ID: P399658

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254651	Chlordane	5.01	Spike	P	0 - 30
2254651	Toxaphene	7.95	Spike	P	0 - 30
LFB	Chlordane	8.65	LCS	P	0 - 30
LFB	Toxaphene	6.45	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P399425

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2253793	Acesulfame K	1.01	Spike	P	0 - 30
2253793	AMPA	4.30	Spike	P	0 - 30
2253793	Endothall	17.9	Spike	P	0 - 30
2253793	Glufosinate	2.93	Spike	P	0 - 30
2253793	Glyphosate	0.200	Spike	P	0 - 30
2253793	Sucralose	10.3	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P399742

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254386	2,4-D	8.10	Spike	P	0 - 30
2254386	2,4,5-T	7.63	Spike	P	0 - 30
2254386	Acetaminophen	5.02	Spike	P	0 - 30
2254386	Acetamiprid	5.13	Spike	P	0 - 30
2254386	Afidopyropen	6.35	Spike	P	0 - 30
2254386	Bentazon	11.4	Spike	P	0 - 30
2254386	Benzovindiflupyr	6.22	Spike	P	0 - 30
2254386	Carbamazepine	4.66	Spike	P	0 - 30
2254386	Clothianidin	7.29	Spike	P	0 - 30
2254386	Dinotefuran	1.06	Spike	P	0 - 30
2254386	Diuron	6.65	Spike	P	0 - 30
2254386	Fenuron	2.17	Spike	P	0 - 30
2254386	Fluridone	2.03	Spike	P	0 - 30
2254386	Hydrocodone	4.45	Spike	P	0 - 30
2254386	Ibuprofen	27.1	Spike	P	0 - 30
2254386	Imazapyr	2.51	Spike	P	0 - 30
2254386	Imidacloprid	3.25	Spike	P	0 - 30
2254386	Linuron	7.30	Spike	P	0 - 30
2254386	Mandestrobin	4.70	Spike	P	0 - 30
2254386	MCPP	6.70	Spike	P	0 - 30
2254386	Naproxen	7.41	Spike	P	0 - 30
2254386	Primidone	11.6	Spike	P	0 - 30
2254386	Pyraclostrobin	13.0	Spike	P	0 - 30
2254386	Thiamethoxam	3.17	Spike	P	0 - 30
2254386	Tolfenpyrad	28.3	Spike	P	0 - 30
2254386	Triclopyr	3.84	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2254377
Field Sample ID: G3SD0183

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8276	Decachlorobiphenyl	85.1	P	29 - 92.0
EPA 8276	PCNB	81.7	P	43 - 134

Lab Sample ID: 2254386
Field Sample ID: G3SD0183

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	135	P	30 - 160
EPA 8321B	Acetaminophen-d4	85.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	76.4	P	30 - 160
EPA 8321B	Diuron-d6	73.5	P	30 - 160
EPA 8321B	Endothall-d6	101	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	127	P	30 - 160
EPA 8321B	Ibuprofen-d3	68.1	P	30 - 160
EPA 8321B	Primidone-d5	103	P	30 - 160
EPA 8321B	Sucralose-d6	37.1	P	30 - 160

Quality Assurance Report

Calibration Verification

Reference Method: EPA 8321B
 Run ID: A106009
 Included Lab Sample IDs: 2254386

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	100	94.6	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A106011
 Included Lab Sample IDs: 2254386

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	80.7	84.6	P/P	60 - 160
Endothall	109	114	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A106015
 Included Lab Sample IDs: 2254386

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	104	103	P/P	60 - 160
Glufosinate	112	122	P/P	60 - 160
Glyphosate	126	125	P/P	60 - 160

Reference Method: EPA 8276
 Run ID: A106189
 Included Lab Sample IDs: 2254377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	95.1		P	80 - 120
Toxaphene	98.4		P	80 - 120

Reference Method: EPA 8321B
 Run ID: A106199
 Included Lab Sample IDs: 2254386

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	93.6	87.7	P/P	50 - 150
2,4,5-T	95.9	102	P/P	50 - 150
Acetaminophen	78.4	79.2	P/P	60 - 160
Acetamiprid	98.2	101	P/P	50 - 150
Afidopyropen	107	127	P/P	50 - 150
Bentazon	81.6	102	P/P	50 - 160
Benzovindiflupyr	93.9	106	P/P	50 - 160
Carbamazepine	106	115	P/P	60 - 150
Clothianidin	88.1	104	P/P	60 - 150
Dinotefuran	89.5	87.7	P/P	50 - 150
Diuron	109	104	P/P	60 - 160
Fenuron	98.1	99.6	P/P	60 - 150
Fluridone	114	126	P/P	60 - 160
Hydrocodone	102	104	P/P	60 - 150
Ibuprofen	79.5	71.3	P/P	50 - 160
Imazapyr	61.0	106	P/P	50 - 150
Imidacloprid	91.6	87.7	P/P	60 - 150
Linuron	102	124	P/P	60 - 150
Mandestrobin	108	113	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A106199
Included Lab Sample IDs: 2254386

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
MCPD	99.4	116	P/P	50 - 150
Naproxen	99.2	119	P/P	50 - 160
Primidone	103	112	P/P	60 - 150
Pyraclostrobin	89.4	90.6	P/P	60 - 150
Thiamethoxam	71.6	93.9	P/P	50 - 150
Tolfenpyrad	110	115	P/P	60 - 150
Triclopyr	93.9	105	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		LCS	Precision	MS
							SMP	
EPA 8276	Chlordane	104	95.5	98.4	93.6	8.65		5.01
	Toxaphene	91.4	97.5	92.4	85.3	6.45		7.95
EPA 8321B	2,4-D	106		127	139			8.10
	2,4,5-T	99.3		150	161			7.63
	Acesulfame K	83.0		115	114			1.01
	Acetaminophen	60.6		48.3	51.9			5.02
	Acetamiprid	78.4		90.4	85.9			5.13
	Afidopyropen	73.3		81.3	86.6			6.35
	AMPA	96.0		79.8	83.5			4.30
	Bentazon	39.2						11.4
	Benzovindiflupyr	78.0		73.8	78.6			6.22
	Carbamazepine	76.5		77.5	70.6			4.66
	Clothianidin	77.5		109	101			7.29
	Dinotefuran	68.1		97.4	98.4			1.06
	Diuron	66.8		69.0	64.6			6.65
	Endothall	108		58.6	70.1			17.9
	Fenuron	85.5		79.8	81.6			2.17
	Fluridone	83.2		86.1	82.8			2.03
	Glufosinate	110		115	119			2.93
	Glyphosate	112		102	102			0.200
	Hydrocodone	81.6		83.6	87.4			4.45
	Ibuprofen	65.1		65.0	85.4			27.1
	Imazapyr	91.7						2.51
	Imidacloprid	72.3		157	162			3.25
	Linuron	59.6		74.5	80.2			7.30
	Mandestrobin	88.0		92.8	97.3			4.70
	MCPP	147		199	213			6.70
	Naproxen	81.4		94.0	101			7.41
	Primidone	86.5		104	85.9			11.6
	Pyraclostrobin	62.0		74.7	65.6			13.0
	Sucralose	93.2		100	111			10.3
	Thiamethoxam	52.4		119	116			3.17
	Tolfenpyrad	47.0		48.4	64.3			28.3
	Triclopyr	112		155	161			3.84

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2254377
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2254386

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8276	06/10/2021	06/16/2021 08:30	Rasheda Ghaffari	06/19/2021 06:38	Michael Poppell	2254377
EPA 8321B	06/10/2021	06/10/2021 13:00	Juyoung Kim	06/10/2021 19:17	Juyoung Kim	2254386
	06/10/2021	06/10/2021 13:00	Juyoung Kim	06/10/2021 20:16	Juyoung Kim	2254386
	06/10/2021	06/10/2021 13:00	Juyoung Kim	06/11/2021 08:44	Juyoung Kim	2254386
	06/10/2021	06/16/2021 08:30	Hoor Shaik	06/21/2021 05:08	Juyoung Kim	2254386