

Chemical Analysis Report

CEN-DIST-2023-12-19-02

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Run 9**
Request ID: **RQ-2023-10-23-11**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
Attn: Matthew Bearden

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Kerry Tate, Ph.D.
Marek Topolski, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 03-JAN-2024 12:31

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular background.

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: MATTRESS DRAIN AT ROCKRIDGE RD

Collection Date/Time: 12/18/2023 12:43

Field ID: G4CE0247

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2457936	EPA 8321B	2,4-D	0.022		ug/L	P439250	
		Acesulfame K	0.10	U	ug/L	P439184	
		2,4,5-T	0.0040	U	ug/L	P439250	
		AMPA	0.13	I	ug/L	P439184	MS
		Acetaminophen	0.0080	U	ug/L	P439250	
		Acetamiprid	0.0020	U	ug/L	P439250	
		Endothall	0.25	U	ug/L	P439184	
		Glufosinate	0.10	U	ug/L	P439184	
		Glyphosate	0.10	U	ug/L	P439184	
		Afidopyropen	0.0020	U	ug/L	P439250	
		Bentazon	8.0E-04	U	ug/L	P439250	
		Sucralose	0.016	I	ug/L	P439184	
		Benzovindiflupyr	0.0020	U	ug/L	P439250	
		Carbamazepine	8.0E-04	U	ug/L	P439250	
		Clothianidin	0.0020	U	ug/L	P439250	
		Dinotefuran	0.0020	U	ug/L	P439250	
		Diuron	0.0020	U	ug/L	P439250	
		Fenuron	0.032	U	ug/L	P439250	
		Fluridone	8.0E-04	U	ug/L	P439250	
		Imazapyr	0.0040	U	ug/L	P439250	
		Hydrocodone	0.0020	U	ug/L	P439250	
		Ibuprofen	0.080	U	ug/L	P439250	
		Imidacloprid	0.0036	I	ug/L	P439250	
		Linuron	0.0040	U	ug/L	P439250	
		Mandestrobin	0.0020	U	ug/L	P439250	
		MCPP	0.0020	U	ug/L	P439250	
		Naproxen	0.0080	U	ug/L	P439250	
		Primidone	0.0040	U	ug/L	P439250	
		Pyraclostrobin	0.0020	U	ug/L	P439250	
		Silvex	0.0040	U	ug/L	P439250	
		Thiamethoxam	0.0020	U	ug/L	P439250	
		Tolfenpyrad	0.0020	U	ug/L	P439250	
		Triclopyr	0.0040	U	ug/L	P439250	

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B**Batch ID: P439184**

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: P439250**

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	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	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
Silvex	0.0040	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: P439184**

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	128		P	40 - 150
AMPA	89.1		P	40 - 150
Endothall	92.7		P	40 - 150
Glufosinate	93.8		P	40 - 150
Glyphosate	91.2		P	40 - 150
Sucralose	80.7		P	40 - 150

Reference Method: EPA 8321B**Batch ID: P439250**

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	109		P	40 - 150
2,4,5-T	93.2		P	40 - 150
Acetaminophen	56.1		P	30 - 150
Acetamiprid	88.2		P	40 - 150
Afidopyropen	73.9		P	30 - 150
Bentazon	68.7		P	30 - 150
Benzovindiflupyr	80.2		P	40 - 150
Carbamazepine	68.4		P	40 - 150
Clothianidin	84.2		P	40 - 150
Dinotefuran	96.2		P	40 - 150
Diuron	68.7		P	40 - 150
Fenuron	94.2		P	40 - 150
Fluridone	83.4		P	40 - 150
Hydrocodone	81.6		P	40 - 150
Ibuprofen	60.6		P	40 - 150
Imazapyr	81.5		P	40 - 150
Imidacloprid	86.1		P	40 - 150
Linuron	67.2		P	40 - 150
Mandestrobin	84.8		P	40 - 150
MCPP	97.1		P	40 - 150
Naproxen	63.3		P	40 - 150
Primidone	83.3		P	40 - 150
Pyraclostrobin	73.7		P	40 - 150
Silvex	86.9		P	40 - 150
Thiamethoxam	86.0		P	40 - 150
Tolfenpyrad	45.6		P	30 - 150
Triclopyr	107		P	40 - 150

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8321B**Batch ID: P439184**

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457794	Acesulfame K	133	133	P/P	40 - 150
2457794	AMPA	167	169	F/F	40 - 150
2457794	Endothall	96.9	93.6	P/P	40 - 150
2457794	Glufosinate	104	103	P/P	40 - 150
2457794	Glyphosate	71.1	77.5	P/P	40 - 150
2457794	Sucralose	82.0	77.6	P/P	40 - 150

Reference Method: EPA 8321B**Batch ID: P439250**

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457794	2,4-D	133	110	P/P	40 - 150
2457794	2,4,5-T	103	85.5	P/P	40 - 150
2457794	Acetaminophen	68.8	56.1	P/P	30 - 150
2457794	Acetamiprid	101	87.0	P/P	40 - 150
2457794	Afidopyropen	83.4	67.5	P/P	30 - 150
2457794	Bentazon	61.7	53.3	P/P	30 - 150
2457794	Benzovindiflupyr	96.5	76.5	P/P	40 - 150
2457794	Carbamazepine	78.7	65.4	P/P	40 - 150
2457794	Clothianidin	101	82.6	P/P	40 - 150
2457794	Dinotefuran	124	100	P/P	40 - 150
2457794	Diuron	81.2	65.1	P/P	40 - 150
2457794	Fenuron	123	119	P/P	40 - 150
2457794	Fluridone	92.9	75.2	P/P	40 - 150
2457794	Hydrocodone	101	83.3	P/P	40 - 150
2457794	Ibuprofen	76.1	62.3	P/P	40 - 150
2457794	Imazapyr	106	83.8	P/P	40 - 150
2457794	Imidacloprid	118	92.7	P/P	40 - 150
2457794	Linuron	72.3	60.7	P/P	40 - 150
2457794	Mandestrobin	101	80.7	P/P	40 - 150
2457794	MCPP	119	89.7	P/P	40 - 150
2457794	Naproxen	66.1	60.9	P/P	40 - 150
2457794	Primidone	102	80.1	P/P	40 - 150
2457794	Pyraclostrobin	87.9	71.5	P/P	40 - 150
2457794	Silvex	102	78.2	P/P	40 - 150
2457794	Thiamethoxam	96.1	78.5	P/P	40 - 150
2457794	Tolfenpyrad	61.1	46.0	P/P	30 - 150
2457794	Triclopyr	125	96.5	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P439184

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457794	Acesulfame K	0.143	Spike	P	0 - 30
2457794	AMPA	1.21	Spike	P	0 - 30
2457794	Endothall	3.48	Spike	P	0 - 30
2457794	Glufosinate	1.53	Spike	P	0 - 30
2457794	Glyphosate	8.66	Spike	P	0 - 30
2457794	Sucralose	5.52	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P439250

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457794	2,4-D	18.5	Spike	P	0 - 30
2457794	2,4,5-T	18.8	Spike	P	0 - 30
2457794	Acetaminophen	20.3	Spike	P	0 - 30
2457794	Acetamiprid	14.4	Spike	P	0 - 30
2457794	Afidopyropen	21.1	Spike	P	0 - 30
2457794	Bentazon	14.6	Spike	P	0 - 30
2457794	Benzovindiflupyr	23.1	Spike	P	0 - 30
2457794	Carbamazepine	18.4	Spike	P	0 - 30
2457794	Clothianidin	20.4	Spike	P	0 - 30
2457794	Dinotefuran	21.3	Spike	P	0 - 30
2457794	Diuron	22.1	Spike	P	0 - 30
2457794	Fenuron	3.26	Spike	P	0 - 30
2457794	Fluridone	21.1	Spike	P	0 - 30
2457794	Hydrocodone	19.5	Spike	P	0 - 30
2457794	Ibuprofen	20.0	Spike	P	0 - 30
2457794	Imazapyr	23.7	Spike	P	0 - 30
2457794	Imidacloprid	24.2	Spike	P	0 - 30
2457794	Linuron	17.5	Spike	P	0 - 30
2457794	Mandestrobin	22.0	Spike	P	0 - 30
2457794	MCPP	27.9	Spike	P	0 - 30
2457794	Naproxen	8.19	Spike	P	0 - 30
2457794	Primidone	23.8	Spike	P	0 - 30
2457794	Pyraclostrobin	20.6	Spike	P	0 - 30
2457794	Silvex	26.7	Spike	P	0 - 30
2457794	Thiamethoxam	20.2	Spike	P	0 - 30
2457794	Tolfenpyrad	28.2	Spike	P	0 - 30
2457794	Triclopyr	25.4	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2457936

Field Sample ID: G4CE0247

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	81.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	48.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	57.2	P	30 - 160
EPA 8321B	Diuron-d6	47.5	P	30 - 160
EPA 8321B	Endothall-d6	159	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	151	P	30 - 160
EPA 8321B	Ibuprofen-d3	70.3	P	30 - 160
EPA 8321B	Primidone-d5	58.8	P	30 - 160
EPA 8321B	Sucralose-d6	79.1	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A123411
 Included Lab Sample IDs: 2457936

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	127	140	P/P	60 - 160
Sucralose	75.9	81.6	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A123419
 Included Lab Sample IDs: 2457936

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	90.9	92.5	P/P	60 - 160
Endothall	90.8	93.6	P/P	60 - 160
Glufosinate	112	98.6	P/P	60 - 160
Glyphosate	83.8	106	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A123436
 Included Lab Sample IDs: 2457936

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	111	108	P/P	50 - 150
2,4,5-T	99.2	94.2	P/P	50 - 150
Acetaminophen	114	110	P/P	60 - 160
Acetamiprid	111	111	P/P	50 - 150
Afidopyropen	104	98.3	P/P	50 - 150
Bentazon	109	100	P/P	50 - 160
Benzovindiflupyr	108	107	P/P	50 - 150
Carbamazepine	113	106	P/P	60 - 150
Clothianidin	110	108	P/P	60 - 150
Dinotefuran	112	113	P/P	50 - 150
Diuron	121	115	P/P	60 - 160
Fenuron	108	108	P/P	60 - 150
Fluridone	113	111	P/P	60 - 160
Hydrocodone	115	114	P/P	60 - 150
Ibuprofen	83.8	89.8	P/P	50 - 160
Imazapyr	97.1	97.5	P/P	50 - 150
Imidacloprid	99.4	99.6	P/P	60 - 150
Linuron	109	106	P/P	60 - 150
Mandestrobin	110	113	P/P	50 - 150
MCPP	119	114	P/P	50 - 150
Naproxen	95.7	101	P/P	50 - 160
Primidone	106	105	P/P	60 - 150
Pyraclostrobin	109	109	P/P	60 - 150
Silvex	111	108	P/P	50 - 150
Thiamethoxam	114	116	P/P	50 - 150
Tolfenpyrad	101	98.7	P/P	60 - 150
Triclopyr	113	109	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	109	133	110		18.5
	2,4,5-T	93.2	103	85.5		18.8
	Acesulfame K	128	133	133		0.143
	Acetaminophen	56.1	68.8	56.1		20.3
	Acetamiprid	88.2	101	87.0		14.4
	Afidopyropen	73.9	83.4	67.5		21.1
	AMPA	89.1	167	169		1.21
	Bentazon	68.7	61.7	53.3		14.6
	Benzovindiflupyr	80.2	96.5	76.5		23.1
	Carbamazepine	68.4	78.7	65.4		18.4
	Clothianidin	84.2	101	82.6		20.4
	Dinotefuran	96.2	124	100		21.3
	Diuron	68.7	81.2	65.1		22.1
	Endothall	92.7	96.9	93.6		3.48
	Fenuron	94.2	123	119		3.26
	Fluridone	83.4	92.9	75.2		21.1
	Glufosinate	93.8	104	103		1.53
	Glyphosate	91.2	71.1	77.5		8.66
	Hydrocodone	81.6	101	83.3		19.5
	Ibuprofen	60.6	76.1	62.3		20.0
	Imazapyr	81.5	106	83.8		23.7
	Imidacloprid	86.1	118	92.7		24.2
	Linuron	67.2	72.3	60.7		17.5
	Mandestrobin	84.8	101	80.7		22.0
	MCPP	97.1	119	89.7		27.9
	Naproxen	63.3	66.1	60.9		8.19
	Primidone	83.3	102	80.1		23.8
	Pyraclostrobin	73.7	87.9	71.5		20.6
	Silvex	86.9	102	78.2		26.7
	Sucralose	80.7	82.0	77.6		5.52
	Thiamethoxam	86.0	96.1	78.5		20.2
	Tolfenpyrad	45.6	61.1	46.0		28.2
	Triclopyr	107	125	96.5		25.4

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2457936

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	12/19/2023	12/22/2023 09:00	Hoor Shaik	12/27/2023 17:24	Juyoung Kim	2457936
	12/19/2023	12/22/2023 10:50	Hana Lee	12/22/2023 12:38	Hana Lee	2457936
	12/19/2023	12/22/2023 10:50	Hana Lee	12/23/2023 20:37	Hana Lee	2457936