

Chemical Analysis Report

CEN-DIST-2023-01-31-04

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

Event Description: **Florence/SJR/Second/Faulk**
Request ID: **RQ-2023-01-02-56**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
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Certified by: Colin Wright, Program Administrator

Date Certified: 14-FEB-2023 09:07



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: Falk Canal @ 50m upstream of Fiske Blvd

Collection Date/Time: 01/30/2023 11:40

Field ID: G3CE0016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2384008	EPA 8321B	2,4-D	0.0020	U	ug/L	P425264	
		Acesulfame K	0.20	I	ug/L	P425069	
		2,4,5-T	0.0040	U	ug/L	P425264	
		AMPA	0.10	U	ug/L	P425069	
		Acetaminophen	0.0080	U	ug/L	P425264	
		Acetamiprid	0.0020	U	ug/L	P425264	
		Endothall	0.25	U	ug/L	P425069	
		Glufosinate	0.10	U	ug/L	P425069	
		Glyphosate	0.70		ug/L	P425069	
		Afidopyropen	0.0020	U	ug/L	P425264	
		Bentazon	0.027		ug/L	P425264	
		Sucralose	0.51		ug/L	P425069	
		Benzovindiflupyr	0.0020	U	ug/L	P425264	
		Carbamazepine	0.0051		ug/L	P425264	
		Clothianidin	0.0020	U	ug/L	P425264	
		Dinotefuran	0.0020	U	ug/L	P425264	
		Diuron	0.0020	U	ug/L	P425264	
		Fenuron	0.032	U	ug/L	P425264	
		Fluridone	8.0E-04	U	ug/L	P425264	
		Imazapyr	1.7		ug/L	P425264	
		Hydrocodone	0.0020	U	ug/L	P425264	
		Ibuprofen	0.080	U	ug/L	P425264	
		Imidacloprid	0.0036	I	ug/L	P425264	
		Linuron	0.0040	U	ug/L	P425264	
		Mandestrobin	0.0020	U	ug/L	P425264	
		MCPP	0.0029	I	ug/L	P425264	
		Naproxen	0.0080	U	ug/L	P425264	
		Primidone	0.0040	U	ug/L	P425264	
		Pyraclostrobin	0.0020	U	ug/L	P425264	
		Silvex	0.0040	U	ug/L	P425264	
		Thiamethoxam	0.0020	U	ug/L	P425264	
		Tolfenpyrad	0.0020	U	ug/L	P425264	
		Triclopyr	0.0040	U	ug/L	P425264	

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.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P425069

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: P425264

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: P425069

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	101		P	40 - 150
AMPA	110		P	40 - 150
Endothall	115		P	40 - 150
Glufosinate	114		P	40 - 150
Glyphosate	104		P	40 - 150
Sucralose	103		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P425264

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	94.2		P	40 - 150
2,4,5-T	83.3		P	40 - 150
Acetaminophen	86.8		P	30 - 150
Acetamiprid	103		P	40 - 150
Afidopyropen	59.5		P	30 - 150
Bentazon	85.3		P	30 - 150
Benzovindiflupyr	84.1		P	40 - 150
Carbamazepine	76.7		P	40 - 150
Clothianidin	91.0		P	40 - 150
Dinotefuran	101		P	40 - 150
Diuron	86.4		P	40 - 150
Fenuron	84.4		P	40 - 150
Fluridone	69.3		P	40 - 150
Hydrocodone	80.4		P	40 - 150
Ibuprofen	84.6		P	40 - 150
Imazapyr	83.0		P	40 - 150
Imidacloprid	91.5		P	40 - 150
Linuron	86.2		P	40 - 150
Mandestrobin	93.7		P	40 - 150
MCPP	91.5		P	40 - 150
Naproxen	71.0		P	40 - 150
Primidone	87.8		P	40 - 150
Pyraclostrobin	69.0		P	40 - 150
Silvex	80.3		P	40 - 150
Thiamethoxam	80.7		P	40 - 150
Tolfenpyrad	35.5		P	30 - 150
Triclopyr	77.9		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P425069

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2383617	Acesulfame K	99.4	98.2	P/P	40 - 150
2383617	AMPA	108	112	P/P	40 - 150
2383617	Endothall	127	128	P/P	40 - 150
2383617	Glufosinate	103	102	P/P	40 - 150
2383617	Glyphosate	105	105	P/P	40 - 150
2383617	Sucralose	97.1	99.2	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P425264

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2384008	2,4-D	98.6	85.9	P/P	40 - 150
2384008	2,4,5-T	89.5	82.4	P/P	40 - 150
2384008	Acetaminophen	113	101	P/P	30 - 150
2384008	Acetamiprid	75.4	74.8	P/P	40 - 150
2384008	Afidopyropen	57.0	70.0	P/P	30 - 150
2384008	Benzovindiflupyr	88.8	89.9	P/P	40 - 150
2384008	Carbamazepine	71.9	56.2	P/P	40 - 150
2384008	Clothianidin	97.9	83.9	P/P	40 - 150
2384008	Dinotefuran	116	108	P/P	40 - 150
2384008	Diuron	60.9	55.1	P/P	40 - 150
2384008	Fenuron	62.1	54.9	P/P	40 - 150
2384008	Fluridone	68.4	62.5	P/P	40 - 150
2384008	Hydrocodone	79.1	67.5	P/P	40 - 150
2384008	Ibuprofen	72.8	71.8	P/P	40 - 150
2384008	Imidacloprid	128	119	P/P	40 - 150
2384008	Linuron	86.4	80.2	P/P	40 - 150
2384008	Mandestrobin	82.0	85.2	P/P	40 - 150
2384008	MCPP	92.2	82.6	P/P	40 - 150
2384008	Naproxen	85.4	68.6	P/P	40 - 150
2384008	Primidone	88.3	77.9	P/P	40 - 150
2384008	Pyraclostrobin	83.2	81.0	P/P	40 - 150
2384008	Silvex	90.5	93.7	P/P	40 - 150
2384008	Thiamethoxam	84.4	77.3	P/P	40 - 150
2384008	Tolfenpyrad	54.8	51.5	P/P	30 - 150
2384008	Triclopyr	90.6	87.2	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P425069

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2383617	Acesulfame K	1.16	Spike	P	0 - 30
2383617	AMPA	3.50	Spike	P	0 - 30
2383617	Endothall	1.24	Spike	P	0 - 30
2383617	Glufosinate	0.856	Spike	P	0 - 30
2383617	Glyphosate	0.137	Spike	P	0 - 30
2383617	Sucralose	2.15	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P425264

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2384008	2,4-D	13.8	Spike	P	0 - 30
2384008	2,4,5-T	8.20	Spike	P	0 - 30
2384008	Acetaminophen	11.6	Spike	P	0 - 30
2384008	Acetamiprid	0.707	Spike	P	0 - 30
2384008	Afidopyropen	20.4	Spike	P	0 - 30
2384008	Bentazon	3.28	Spike	P	0 - 30
2384008	Benzovindiflupyr	1.22	Spike	P	0 - 30
2384008	Carbamazepine	17.6	Spike	P	0 - 30
2384008	Clothianidin	15.4	Spike	P	0 - 30
2384008	Dinotefuran	7.48	Spike	P	0 - 30
2384008	Diuron	10.0	Spike	P	0 - 30
2384008	Fenuron	12.2	Spike	P	0 - 30
2384008	Fluridone	8.92	Spike	P	0 - 30
2384008	Hydrocodone	15.9	Spike	P	0 - 30
2384008	Ibuprofen	1.40	Spike	P	0 - 30
2384008	Imazapyr	16.8	Spike	P	0 - 30
2384008	Imidacloprid	6.88	Spike	P	0 - 30
2384008	Linuron	7.38	Spike	P	0 - 30
2384008	Mandestrobin	3.85	Spike	P	0 - 30
2384008	MCPP	10.6	Spike	P	0 - 30
2384008	Naproxen	21.8	Spike	P	0 - 30
2384008	Primidone	12.5	Spike	P	0 - 30
2384008	Pyraclostrobin	2.64	Spike	P	0 - 30
2384008	Silvex	3.49	Spike	P	0 - 30
2384008	Thiamethoxam	8.76	Spike	P	0 - 30
2384008	Tolfenpyrad	6.28	Spike	P	0 - 30
2384008	Triclopyr	3.83	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2384008
Field Sample ID: G3CE0016

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	102	P	30 - 160
EPA 8321B	Acetaminophen-d4	106	P	30 - 160
EPA 8321B	Carbamazepine-d10	57.4	P	30 - 160
EPA 8321B	Diuron-d6	53.5	P	30 - 160
EPA 8321B	Endothall-d6	156	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	96.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	44.7	P	30 - 160
EPA 8321B	Primidone-d5	73.5	P	30 - 160
EPA 8321B	Sucralose-d6	98.2	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A117227
Included Lab Sample IDs: 2384008

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	102	96.3	P/P	60 - 160
Sucralose	103	102	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A117233
Included Lab Sample IDs: 2384008

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	111	111	P/P	60 - 160
Endothall	113	114	P/P	60 - 160
Glufosinate	111	119	P/P	60 - 160
Glyphosate	107	108	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A117377
Included Lab Sample IDs: 2384008

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	101	102	P/P	50 - 150
2,4,5-T	109	103	P/P	50 - 150
Acetaminophen	121	111	P/P	60 - 160
Acetamiprid	136	119	P/P	50 - 150
Afidopyropen	107	105	P/P	50 - 150
Bentazon	104	102	P/P	50 - 160
Benzovindiflupyr	117	124	P/P	50 - 150
Carbamazepine	111	101	P/P	60 - 150
Clothianidin	115	102	P/P	60 - 150
Dinotefuran	122	115	P/P	50 - 150
Diuron	131	129	P/P	60 - 160
Fenuron	103	110	P/P	60 - 150
Fluridone	107	102	P/P	60 - 160
Hydrocodone	107	105	P/P	60 - 150
Ibuprofen	86.2	125	P/P	50 - 160
Imazapyr	127	122	P/P	50 - 150
Imidacloprid	108	103	P/P	60 - 150
Linuron	109	97.4	P/P	60 - 150
Mandestrobin	103	108	P/P	50 - 150
MCPP	110	102	P/P	50 - 150
Naproxen	113	94.6	P/P	50 - 160
Primidone	107	113	P/P	60 - 150
Pyraclostrobin	119	118	P/P	60 - 150
Silvex	107	120	P/P	50 - 150
Thiamethoxam	109	105	P/P	50 - 150
Tolfenpyrad	112	112	P/P	60 - 150
Triclopyr	107	108	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	94.2	98.6	85.9		13.8
	2,4,5-T	83.3	89.5	82.4		8.20
	Acesulfame K	101	99.4	98.2		1.16
	Acetaminophen	86.8	113	101		11.6
	Acetamiprid	103	75.4	74.8		0.707
	Afidopyropen	59.5	57.0	70.0		20.4
	AMPA	110	108	112		3.50
	Bentazon	85.3				3.28
	Benzovindiflupyr	84.1	88.8	89.9		1.22
	Carbamazepine	76.7	71.9	56.2		17.6
	Clothianidin	91.0	97.9	83.9		15.4
	Dinotefuran	101	116	108		7.48
	Diuron	86.4	60.9	55.1		10.0
	Endothall	115	127	128		1.24
	Fenuron	84.4	62.1	54.9		12.2
	Fluridone	69.3	68.4	62.5		8.92
	Glufosinate	114	103	102		0.856
	Glyphosate	104	105	105		0.137
	Hydrocodone	80.4	79.1	67.5		15.9
	Ibuprofen	84.6	72.8	71.8		1.40
	Imazapyr	83.0				16.8
	Imidacloprid	91.5	128	119		6.88
	Linuron	86.2	86.4	80.2		7.38
	Mandestrobin	93.7	82.0	85.2		3.85
	MCPP	91.5	92.2	82.6		10.6
	Naproxen	71.0	85.4	68.6		21.8
	Primidone	87.8	88.3	77.9		12.5
	Pyraclostrobin	69.0	83.2	81.0		2.64
	Silvex	80.3	90.5	93.7		3.49
	Sucralose	103	97.1	99.2		2.15
	Thiamethoxam	80.7	84.4	77.3		8.76
	Tolfenpyrad	35.5	54.8	51.5		6.28
	Triclopyr	77.9	90.6	87.2		3.83

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2384008

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	01/31/2023	02/01/2023 12:00	Manjita Shrestha	02/01/2023 13:25	Manjita Shrestha	2384008
	01/31/2023	02/01/2023 12:00	Manjita Shrestha	02/01/2023 21:32	Manjita Shrestha	2384008
	01/31/2023	02/02/2023 14:30	June Rhew	02/03/2023 18:04	Juyoung Kim	2384008
	01/31/2023	02/02/2023 14:30	June Rhew	02/06/2023 10:05	Juyoung Kim	2384008