

Chemical Analysis Report

NW-DIST-2022-09-15-01

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

Event Description: **SMP/TREND RUN**
Request ID: **RQ-2022-09-12-38**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 W Government Street
Suite 208
Pensacola, FL 32502-5794
Attn: Myranda Butler

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, 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: 26-SEP-2022 11:05

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light pink 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: Choctawhatchee River at State Highway 2

Collection Date/Time: 09/13/2022 14:32

Field ID: G3NW0006

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2356572	EPA 8321B	2,4-D	0.0035	I	ug/L	P419624	
		Acesulfame K	0.10	U	ug/L	P419612	
		2,4,5-T	0.0040	U	ug/L	P419624	
		AMPA	0.10	U	ug/L	P419612	
		Acetaminophen	0.0080	U	ug/L	P419624	
		Acetamiprid	0.0020	U	ug/L	P419624	
		Endothall	0.25	U	ug/L	P419612	
		Glufosinate	0.10	U	ug/L	P419612	
		Glyphosate	0.10	U	ug/L	P419612	
		Afidopyropen	0.0020	U	ug/L	P419624	
		Sucralose	0.65		ug/L	P419612	
		Bentazon	0.0035		ug/L	P419624	MS
		Benzovindiflupyr	0.0020	U	ug/L	P419624	
		Carbamazepine	0.0016	I	ug/L	P419624	
		Clothianidin	0.0020	U	ug/L	P419624	
		Dinotefuran	0.0020	U	ug/L	P419624	
		Diuron	0.0020	U	ug/L	P419624	
		Fenuron	0.016	U	ug/L	P419624	
		Fluridone	8.0E-04	U	ug/L	P419624	
		Imazapyr	0.023		ug/L	P419624	MS
		Hydrocodone	0.0020	U	ug/L	P419624	
		Ibuprofen	0.020	U	ug/L	P419624	
		Imidacloprid	0.0095		ug/L	P419624	
		Linuron	0.0040	U	ug/L	P419624	
		Mandestrobin	0.0020	U	ug/L	P419624	
		MCPP	0.0020	U	ug/L	P419624	MS
		Naproxen	0.0080	U	ug/L	P419624	
		Primidone	0.0040	U	ug/L	P419624	
		Pyraclostrobin	0.0020	U	ug/L	P419624	
		Silvex	0.0040	U	ug/L	P419624	
		Thiamethoxam	0.0020	U	ug/L	P419624	MS
		Tolfenpyrad	0.0020	U	ug/L	P419624	
		Triclopyr	0.0040	U	ug/L	P419624	

Ref. Method and Comment:

EPA 8321B: MS accuracy for 2,4-D 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: P419612

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: P419624

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
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: P419612

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	115		P	40 - 150
AMPA	105		P	40 - 150
Endothall	98.0		P	40 - 150
Glufosinate	97.9		P	40 - 150
Glyphosate	113		P	40 - 150
Sucralose	110		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P419624

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	86.4		P	30 - 160
2,4,5-T	88.3		P	30 - 160
Acetaminophen	93.4		P	30 - 150
Acetamiprid	89.1		P	30 - 160
Afidopyropen	70.7		P	30 - 160
Bentazon	111		P	30 - 150
Benzovindiflupyr	87.3		P	30 - 160
Carbamazepine	98.4		P	30 - 160
Clothianidin	90.6		P	30 - 160
Dinotefuran	95.6		P	30 - 160
Diuron	76.5		P	30 - 160
Fenuron	101		P	30 - 160
Fluridone	99.2		P	30 - 160
Hydrocodone	54.7		P	30 - 160
Ibuprofen	52.2		P	30 - 160
Imazapyr	89.9		P	30 - 160
Imidacloprid	93.6		P	30 - 160
Linuron	88.7		P	30 - 160
Mandestrobin	96.2		P	30 - 160
MCPP	88.1		P	30 - 160
Naproxen	73.1		P	30 - 160
Primidone	79.5		P	30 - 160
Pyraclostrobin	86.0		P	30 - 160
Silvex	92.4		P	30 - 160
Thiamethoxam	97.2		P	30 - 160
Tolfenpyrad	76.5		P	30 - 160
Triclopyr	86.6		P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P419612

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356572	Acesulfame K	110	109	P/P	40 - 150
2356572	AMPA	103	94.6	P/P	40 - 150
2356572	Endothall	99.4	97.9	P/P	40 - 150
2356572	Glufosinate	85.8	91.8	P/P	40 - 150
2356572	Glyphosate	117	115	P/P	40 - 150
2356572	Sucralose	105	103	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P419624

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356270	2,4,5-T	149	137	P/P	30 - 160
2356270	Acetaminophen	135	138	P/P	30 - 150
2356270	Acetamiprid	104	102	P/P	30 - 160
2356270	Afidopyropen	132	130	P/P	30 - 160
2356270	Bentazon	147	152	P/F	30 - 150
2356270	Benzovindiflupyr	103	109	P/P	30 - 160
2356270	Carbamazepine	101	97.2	P/P	30 - 160
2356270	Clothianidin	123	141	P/P	30 - 160
2356270	Dinotefuran	137	141	P/P	30 - 160
2356270	Diuron	70.0	61.4	P/P	30 - 160
2356270	Fenuron	124	125	P/P	30 - 160
2356270	Fluridone	129	137	P/P	30 - 160
2356270	Hydrocodone	80.7	79.0	P/P	30 - 160
2356270	Ibuprofen	90.1	101	P/P	30 - 160
2356270	Imazapyr	186	196	F/F	30 - 160
2356270	Imidacloprid	153	144	P/P	30 - 160
2356270	Linuron	105	109	P/P	30 - 160
2356270	Mandestrobin	128	125	P/P	30 - 160
2356270	MCP	172	180	F/F	30 - 160
2356270	Naproxen	128	106	P/P	30 - 160
2356270	Primidone	143	150	P/P	30 - 160
2356270	Pyraclostrobin	125	126	P/P	30 - 160
2356270	Silvex	151	150	P/P	30 - 160
2356270	Thiamethoxam	188	189	F/F	30 - 160
2356270	Tolfenpyrad	105	101	P/P	30 - 160
2356270	Triclopyr	145	144	P/P	30 - 160

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P419612

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356572	Acesulfame K	0.921	Spike	P	0 - 30
2356572	AMPA	8.03	Spike	P	0 - 30
2356572	Endothall	1.60	Spike	P	0 - 30
2356572	Glufosinate	6.78	Spike	P	0 - 30
2356572	Glyphosate	2.29	Spike	P	0 - 30
2356572	Sucralose	1.06	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P419624

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356270	2,4-D	9.15	Spike	P	0 - 30
2356270	2,4,5-T	8.92	Spike	P	0 - 30
2356270	Acetaminophen	1.82	Spike	P	0 - 30
2356270	Acetamiprid	1.94	Spike	P	0 - 30
2356270	Afidopyropen	0.994	Spike	P	0 - 30
2356270	Bentazon	2.58	Spike	P	0 - 30
2356270	Benzovindiflupyr	5.16	Spike	P	0 - 30
2356270	Carbamazepine	4.07	Spike	P	0 - 30
2356270	Clothianidin	14.0	Spike	P	0 - 30
2356270	Dinotefuran	2.62	Spike	P	0 - 30
2356270	Diuron	13.1	Spike	P	0 - 30
2356270	Fenuron	1.01	Spike	P	0 - 30
2356270	Fluridone	5.91	Spike	P	0 - 30
2356270	Hydrocodone	2.14	Spike	P	0 - 30
2356270	Ibuprofen	11.3	Spike	P	0 - 30
2356270	Imazapyr	4.70	Spike	P	0 - 30
2356270	Imidacloprid	5.96	Spike	P	0 - 30
2356270	Linuron	3.59	Spike	P	0 - 30
2356270	Mandestrobin	2.24	Spike	P	0 - 30
2356270	MCPP	3.71	Spike	P	0 - 30
2356270	Naproxen	19.1	Spike	P	0 - 30
2356270	Primidone	4.58	Spike	P	0 - 30
2356270	Pyraclostrobin	0.573	Spike	P	0 - 30
2356270	Silvex	1.25	Spike	P	0 - 30
2356270	Thiamethoxam	0.440	Spike	P	0 - 30
2356270	Tolfenpyrad	4.16	Spike	P	0 - 30
2356270	Triclopyr	0.443	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2356572

Field Sample ID: G3NW0006

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	94.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	117	P	30 - 160
EPA 8321B	Carbamazepine-d10	98.3	P	30 - 160
EPA 8321B	Diuron-d6	59.2	P	30 - 160
EPA 8321B	Endothall-d6	108	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	99.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	79.6	P	30 - 160
EPA 8321B	Primidone-d5	95.3	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A114835
Included Lab Sample IDs: 2356572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	100	89.9	P/P	50 - 150
2,4,5-T	110	92.8	P/P	50 - 150
Acetaminophen	98.0	107	P/P	60 - 160
Acetamiprid	120	138	P/P	50 - 150
Afidopyropen	99.2	112	P/P	50 - 150
Bentazon	120	105	P/P	50 - 160
Benzovindiflupyr	111	132	P/P	50 - 160
Carbamazepine	112	127	P/P	60 - 150
Clothianidin	95.6	108	P/P	60 - 150
Dinotefuran	113	121	P/P	50 - 150
Diuron	105	111	P/P	60 - 160
Fenuron	111	114	P/P	60 - 150
Fluridone	103	122	P/P	60 - 160
Hydrocodone	106	99.8	P/P	60 - 150
Ibuprofen	139	110	P/P	50 - 160
Imazapyr	96.6	101	P/P	50 - 150
Imidacloprid	117	107	P/P	60 - 150
Linuron	110	126	P/P	60 - 150
Mandestrobin	109	129	P/P	50 - 150
MCPP	107	88.8	P/P	50 - 150
Naproxen	125	89.7	P/P	50 - 160
Primidone	107	93.4	P/P	60 - 150
Pyraclostrobin	110	134	P/P	60 - 150
Silvex	104	93.5	P/P	50 - 150
Thiamethoxam	108	114	P/P	50 - 150
Tolfenpyrad	105	142	P/P	60 - 150
Triclopyr	116	110	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A114851
Included Lab Sample IDs: 2356572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	105	105	P/P	60 - 160
Endothall	95.2	74.9	P/P	60 - 160
Glufosinate	90.5	73.0	P/P	60 - 160
Glyphosate	114	108	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A114853
Included Lab Sample IDs: 2356572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	108	125	P/P	60 - 160
Sucralose	106	113	P/P	60 - 160

* 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	
					LCS	SMP
EPA 8321B	2,4-D	86.4				9.15
	2,4,5-T	88.3	149	137		8.92
	Acesulfame K	115	110	109		0.921
	Acetaminophen	93.4	135	138		1.82
	Acetamiprid	89.1	104	102		1.94
	Afidopyropen	70.7	132	130		0.994
	AMPA	105	103	94.6		8.03
	Bentazon	111	147	152		2.58
	Benzovindiflupyr	87.3	103	109		5.16
	Carbamazepine	98.4	101	97.2		4.07
	Clothianidin	90.6	123	141		14.0
	Dinotefuran	95.6	137	141		2.62
	Diuron	76.5	70.0	61.4		13.1
	Endothall	98.0	99.4	97.9		1.60
	Fenuron	101	124	125		1.01
	Fluridone	99.2	129	137		5.91
	Glufosinate	97.9	85.8	91.8		6.78
	Glyphosate	113	117	115		2.29
	Hydrocodone	54.7	80.7	79.0		2.14
	Ibuprofen	52.2	90.1	101		11.3
	Imazapyr	89.9	186	196		4.70
	Imidacloprid	93.6	153	144		5.96
	Linuron	88.7	105	109		3.59
	Mandestrobin	96.2	128	125		2.24
	MCPP	88.1	172	180		3.71
	Naproxen	73.1	128	106		19.1
	Primidone	79.5	143	150		4.58
	Pyraclostrobin	86.0	125	126		0.573
	Silvex	92.4	151	150		1.25
	Sucralose	110	105	103		1.06
	Thiamethoxam	97.2	188	189		0.440
	Tolfenpyrad	76.5	105	101		4.16
	Triclopyr	86.6	145	144		0.443

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2356572

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	09/15/2022	09/16/2022 09:00	Hoor Shaik	09/21/2022 12:44	Juyoung Kim	2356572
	09/15/2022	09/16/2022 13:00	Umesh Chiluwal	09/17/2022 01:05	Umesh Chiluwal	2356572
	09/15/2022	09/16/2022 13:00	Umesh Chiluwal	09/19/2022 11:53	Umesh Chiluwal	2356572