

Chemical Analysis Report

NW-DIST-2022-07-21-01

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

Event Description: **SMP/TREND RUN**

Request ID: **RQ-2022-07-18-39**

Customer: **NW-DIST**

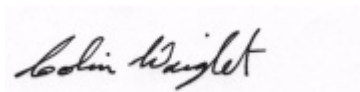
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 02-AUG-2022 08:42

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light-colored 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: Yellow River at Oak Grove Boat Ramp

Collection Date/Time: 07/20/2022 11:05

Field ID: G4NW0526

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2343225	EPA 8321B	2,4-D	0.010		ug/L	P417136	
		Acesulfame K	0.10	U	ug/L	P416993	
		2,4,5-T	0.0040	U	ug/L	P417136	
		AMPA	0.10	U	ug/L	P416993	
		Acetaminophen	0.0080	U	ug/L	P417136	
		Acetamiprid	0.0020	U	ug/L	P417136	
		Endothall	0.25	U	ug/L	P416993	
		Glufosinate	0.10	U	ug/L	P416993	MS
		Glyphosate	0.10	U	ug/L	P416993	
		Afidopyropen	0.0020	U	ug/L	P417136	
		Bentazon	8.0E-04	U	ug/L	P417136	
		Sucralose	0.059		ug/L	P416993	
		Benzovindiflupyr	0.0020	U	ug/L	P417136	
		Carbamazepine	8.0E-04	U	ug/L	P417136	
		Clothianidin	0.0020	U	ug/L	P417136	
		Dinotefuran	0.0020	U	ug/L	P417136	
		Diuron	0.0020	U	ug/L	P417136	
		Fenuron	0.032	U	ug/L	P417136	
		Fluridone	8.0E-04	U	ug/L	P417136	
		Imazapyr	0.0097	I	ug/L	P417136	
		Hydrocodone	0.0020	U	ug/L	P417136	
		Ibuprofen	0.080	U	ug/L	P417136	
		Imidacloprid	0.0036	I	ug/L	P417136	
		Linuron	0.0040	U	ug/L	P417136	
		Mandestrobin	0.0020	U	ug/L	P417136	
		MCPP	0.0040	U	ug/L	P417136	
		Naproxen	0.0080	U	ug/L	P417136	
		Primidone	0.0040	U	ug/L	P417136	
		Pyraclostrobin	0.0020	U	ug/L	P417136	
		Silvex	0.0040	U	ug/L	P417136	
		Thiamethoxam	0.0020	U	ug/L	P417136	MS
		Tolfenpyrad	0.0020	U	ug/L	P417136	
		Triclopyr	0.0040	U	ug/L	P417136	

Ref. Method and Comment:

EPA 8321B: MS accuracy and precision for bentazon could not be assessed due to high concentration of parameter in the spiked sample. 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: P416993

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: P417136

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	0.0040	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: P416993

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	71.7		P	40 - 150
AMPA	108		P	40 - 150
Endothall	92.1		P	40 - 150
Glufosinate	120		P	40 - 150
Glyphosate	102		P	40 - 150
Sucralose	93.7		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P417136

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	86.2		P	40 - 150
2,4,5-T	76.7		P	40 - 150
Acetaminophen	90.2		P	30 - 150
Acetamiprid	73.6		P	40 - 150
Afidopyropen	73.4		P	30 - 150
Bentazon	96.3		P	30 - 150
Benzovindiflupyr	88.8		P	40 - 150
Carbamazepine	89.2		P	40 - 150
Clothianidin	96.2		P	40 - 150
Dinotefuran	98.7		P	40 - 150
Diuron	72.1		P	40 - 150
Fenuron	101		P	40 - 150
Fluridone	92.3		P	40 - 150
Hydrocodone	91.4		P	40 - 150
Ibuprofen	113		P	40 - 150
Imazapyr	74.7		P	40 - 150
Imidacloprid	102		P	40 - 150
Linuron	91.1		P	40 - 150
Mandestrobin	83.8		P	40 - 150
MCPP	97.4		P	40 - 150
Naproxen	99.7		P	40 - 150
Primidone	90.3		P	40 - 150
Pyraclostrobin	76.2		P	40 - 150
Silvex	55.4		P	40 - 150
Thiamethoxam	95.0		P	40 - 150
Tolfenpyrad	41.8		P	30 - 150
Triclopyr	72.7		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P416993

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343069	Acesulfame K	62.4	64.3	P/P	40 - 150
2343069	AMPA	46.7	44.3	P/P	40 - 150
2343069	Endothall	117	116	P/P	40 - 150
2343069	Glufosinate	32.0	34.3	F/F	40 - 150
2343069	Glyphosate	58.1	59.3	P/P	40 - 150
2343069	Sucralose	90.0	93.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P417136

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343511	2,4-D	91.6	73.6	P/P	40 - 150
2343511	2,4,5-T	72.4	69.6	P/P	40 - 150
2343511	Acetaminophen	116	110	P/P	30 - 150
2343511	Acetamiprid	92.9	80.0	P/P	40 - 150
2343511	Afidopyropen	86.2	68.9	P/P	30 - 150
2343511	Benzovindiflupyr	104	91.8	P/P	40 - 150
2343511	Carbamazepine	114	104	P/P	40 - 150
2343511	Clothianidin	105	104	P/P	40 - 150
2343511	Dinotefuran	140	133	P/P	40 - 150
2343511	Diuron	76.4	75.8	P/P	40 - 150
2343511	Fenuron	95.6	87.7	P/P	40 - 150
2343511	Hydrocodone	103	100	P/P	40 - 150
2343511	Ibuprofen	90.5	82.2	P/P	40 - 150
2343511	Imazapyr	76.7	66.5	P/P	40 - 150
2343511	Linuron	96.1	92.2	P/P	40 - 150
2343511	Mandestrobin	83.6	74.7	P/P	40 - 150
2343511	MCPP	92.7	81.5	P/P	40 - 150
2343511	Naproxen	88.4	92.5	P/P	40 - 150
2343511	Primidone	102	99.6	P/P	40 - 150
2343511	Pyraclostrobin	91.9	84.3	P/P	40 - 150
2343511	Silvex	88.9	71.9	P/P	40 - 150
2343511	Thiamethoxam	152	143	F/P	40 - 150
2343511	Tolfenpyrad	52.3	46.9	P/P	30 - 150
2343511	Triclopyr	74.6	68.2	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P416993

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343069	Acesulfame K	3.01	Spike	P	0 - 30
2343069	AMPA	4.15	Spike	P	0 - 30
2343069	Endothall	0.729	Spike	P	0 - 30
2343069	Glufosinate	7.13	Spike	P	0 - 30
2343069	Glyphosate	1.39	Spike	P	0 - 30
2343069	Sucralose	3.88	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P417136

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343511	2,4-D	19.3	Spike	P	0 - 30
2343511	2,4,5-T	3.93	Spike	P	0 - 30
2343511	Acetaminophen	5.31	Spike	P	0 - 30
2343511	Acetamiprid	14.9	Spike	P	0 - 30
2343511	Afidopyropen	22.3	Spike	P	0 - 30
2343511	Benzovindiflupyr	12.6	Spike	P	0 - 30
2343511	Carbamazepine	8.61	Spike	P	0 - 30
2343511	Clothianidin	0.450	Spike	P	0 - 30
2343511	Dinotefuran	4.79	Spike	P	0 - 30
2343511	Diuron	0.750	Spike	P	0 - 30
2343511	Fenuron	8.61	Spike	P	0 - 30
2343511	Fluridone	9.70	Spike	P	0 - 30
2343511	Hydrocodone	3.29	Spike	P	0 - 30
2343511	Ibuprofen	9.67	Spike	P	0 - 30
2343511	Imazapyr	10.4	Spike	P	0 - 30
2343511	Imidacloprid	8.97	Spike	P	0 - 30
2343511	Linuron	4.19	Spike	P	0 - 30
2343511	Mandestrobin	11.2	Spike	P	0 - 30
2343511	MCPP	12.9	Spike	P	0 - 30
2343511	Naproxen	4.48	Spike	P	0 - 30
2343511	Primidone	2.33	Spike	P	0 - 30
2343511	Pyraclostrobin	8.59	Spike	P	0 - 30
2343511	Silvex	21.1	Spike	P	0 - 30
2343511	Thiamethoxam	6.23	Spike	P	0 - 30
2343511	Tolfenpyrad	10.9	Spike	P	0 - 30
2343511	Triclopyr	8.97	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2343225

Field Sample ID: G4NW0526

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	95.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	116	P	30 - 160
EPA 8321B	Carbamazepine-d10	115	P	30 - 160
EPA 8321B	Diuron-d6	80.4	P	30 - 160
EPA 8321B	Endothall-d6	104	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	105	P	30 - 160
EPA 8321B	Ibuprofen-d3	74.6	P	30 - 160
EPA 8321B	Primidone-d5	119	P	30 - 160
EPA 8321B	Sucralose-d6	96.3	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A113733
Included Lab Sample IDs: 2343225

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	93.9	107	P/P	50 - 150
2,4,5-T	92.1	116	P/P	50 - 150
Acetaminophen	104	103	P/P	60 - 160
Acetamiprid	101	90.3	P/P	50 - 150
Afidopyropen	111	88.0	P/P	50 - 150
Bentazon	108	98.6	P/P	50 - 160
Benzovindiflupyr	99.2	102	P/P	50 - 150
Carbamazepine	105	106	P/P	60 - 150
Clothianidin	94.2	106	P/P	60 - 150
Dinotefuran	107	105	P/P	50 - 150
Diuron	84.4	102	P/P	60 - 160
Fenuron	102	99.1	P/P	60 - 150
Fluridone	112	116	P/P	60 - 160
Hydrocodone	103	102	P/P	60 - 150
Ibuprofen	102	120	P/P	50 - 160
Imazapyr	90.8	81.5	P/P	50 - 150
Imidacloprid	107	105	P/P	60 - 150
Linuron	95.2	108	P/P	60 - 150
Mandestrobin	103	108	P/P	50 - 150
MCPP	105	102	P/P	50 - 150
Naproxen	120	94.5	P/P	50 - 160
Primidone	95.2	105	P/P	60 - 150
Pyraclostrobin	102	101	P/P	60 - 150
Silvex	91.0	86.8	P/P	50 - 150
Thiamethoxam	102	101	P/P	50 - 150
Tolfenpyrad	98.8	98.5	P/P	60 - 150
Triclopyr	116	101	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A113754
Included Lab Sample IDs: 2343225

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	77.7	77.4	P/P	60 - 160
Sucralose	98.0	97.1	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A113755
Included Lab Sample IDs: 2343225

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	115	114	P/P	60 - 160
Endothall	96.0	84.9	P/P	60 - 160
Glufosinate	103	92.1	P/P	60 - 160
Glyphosate	112	105	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 SMP	MS
			LCS			
EPA 8321B	2,4-D	86.2	91.6	73.6		19.3
	2,4,5-T	76.7	72.4	69.6		3.93
	Acesulfame K	71.7	62.4	64.3		3.01
	Acetaminophen	90.2	116	110		5.31
	Acetamiprid	73.6	92.9	80.0		14.9
	Afidopyropen	73.4	86.2	68.9		22.3
	AMPA	108	46.7	44.3		4.15
	Bentazon	96.3				
	Benzovindiflupyr	88.8	104	91.8		12.6
	Carbamazepine	89.2	114	104		8.61
	Clothianidin	96.2	105	104		0.450
	Dinotefuran	98.7	140	133		4.79
	Diuron	72.1	76.4	75.8		0.750
	Endothall	92.1	117	116		0.729
	Fenuron	101	95.6	87.7		8.61
	Fluridone	92.3				9.70
	Glufosinate	120	32.0	34.3		7.13
	Glyphosate	102	58.1	59.3		1.39
	Hydrocodone	91.4	103	100		3.29
	Ibuprofen	113	90.5	82.2		9.67
	Imazapyr	74.7	76.7	66.5		10.4
	Imidacloprid	102				8.97
	Linuron	91.1	96.1	92.2		4.19
	Mandestrobin	83.8	83.6	74.7		11.2
	MCPP	97.4	92.7	81.5		12.9
	Naproxen	99.7	88.4	92.5		4.48
	Primidone	90.3	102	99.6		2.33
	Pyraclostrobin	76.2	91.9	84.3		8.59
	Silvex	55.4	88.9	71.9		21.1
	Sucralose	93.7	90.0	93.6		3.88
	Thiamethoxam	95.0	152	143		6.23
	Tolfenpyrad	41.8	52.3	46.9		10.9
	Triclopyr	72.7	74.6	68.2		8.97

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2343225

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	07/21/2022	07/26/2022 09:00	Umesh Chiluwal	07/26/2022 13:03	Umesh Chiluwal	2343225
	07/21/2022	07/26/2022 09:00	Umesh Chiluwal	07/26/2022 22:20	Umesh Chiluwal	2343225
	07/21/2022	07/26/2022 10:00	June Rhew	07/26/2022 21:05	Juyoung Kim	2343225