

Chemical Analysis Report

TLH-ROC-2022-08-11-02

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

Event Description: **Run 15**
Request ID: **RQ-2022-02-21-76**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
Tallahassee, FL 32399
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Certified by: Colin Wright, Program Administrator

Date Certified: 23-AUG-2022 11:31

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: Double Branch Upstream SR270

Collection Date/Time: 08/11/2022 12:00

Field ID: G1TLHR0171

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2348516	EPA 8321B	2,4-D	0.0043	I	ug/L	P417968	
		Acesulfame K	0.10	U	ug/L	P418000	
		2,4,5-T	0.0040	U	ug/L	P417968	
		AMPA	0.10	U	ug/L	P418000	
		Acetaminophen	0.0080	U	ug/L	P417968	
		Acetamiprid	0.0020	U	ug/L	P417968	
		Endothall	0.25	U	ug/L	P418000	
		Glufosinate	0.10	U	ug/L	P418000	
		Glyphosate	0.10	U	ug/L	P418000	
		Afidopyropen	0.0020	U	ug/L	P417968	
		Bentazon	8.0E-04	U	ug/L	P417968	
		Sucralose	0.012	I	ug/L	P418000	
		Benzovindiflupyr	0.0020	U	ug/L	P417968	
		Carbamazepine	8.0E-04	U	ug/L	P417968	
		Clothianidin	0.0020	U	ug/L	P417968	
		Dinotefuran	0.0020	U	ug/L	P417968	
		Diuron	0.0020	U	ug/L	P417968	
		Fenuron	0.032	U	ug/L	P417968	
		Fluridone	8.0E-04	U	ug/L	P417968	
		Imazapyr	0.0040	U	ug/L	P417968	
		Hydrocodone	0.0020	U	ug/L	P417968	
		Ibuprofen	0.080	U	ug/L	P417968	
		Imidacloprid	0.0020	U	ug/L	P417968	
		Linuron	0.0040	U	ug/L	P417968	RPD
		Mandestrobin	0.0020	U	ug/L	P417968	
		MCPP	0.0040	U	ug/L	P417968	
		Naproxen	0.0080	U	ug/L	P417968	
		Primidone	0.0040	U	ug/L	P417968	
		Pyraclostrobin	0.0020	U	ug/L	P417968	
		Silvex	0.0040	U	ug/L	P417968	
		Thiamethoxam	0.0020	U	ug/L	P417968	
		Tolfenpyrad	0.0020	U	ug/L	P417968	
		Triclopyr	0.0040	U	ug/L	P417968	

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P417968

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

Reference Method: EPA 8321B

Batch ID: P418000

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P417968

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	119		P	40 - 150
2,4,5-T	99.8		P	40 - 150
Acetaminophen	91.4		P	30 - 150
Acetamiprid	95.5		P	40 - 150
Afidopyropen	73.4		P	30 - 150
Bentazon	99.2		P	30 - 150
Benzovindiflupyr	108		P	40 - 150
Carbamazepine	108		P	40 - 150
Clothianidin	102		P	40 - 150
Dinotefuran	108		P	40 - 150
Diuron	77.5		P	40 - 150
Fenuron	104		P	40 - 150
Fluridone	106		P	40 - 150
Hydrocodone	103		P	40 - 150
Ibuprofen	119		P	40 - 150
Imazapyr	110		P	40 - 150
Imidacloprid	100		P	40 - 150
Linuron	97.7		P	40 - 150
Mandestrobin	107		P	40 - 150
MCPP	111		P	40 - 150
Naproxen	84.4		P	40 - 150
Primidone	100		P	40 - 150
Pyraclostrobin	100		P	40 - 150
Silvex	111		P	40 - 150
Thiamethoxam	114		P	40 - 150
Tolfenpyrad	86.7		P	30 - 150
Triclopyr	96.0		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P418000

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	104		P	40 - 150
AMPA	108		P	40 - 150
Endothall	112		P	40 - 150
Glufosinate	125		P	40 - 150
Glyphosate	111		P	40 - 150
Sucralose	109		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P417968

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348048	2,4-D	93.9	115	P/P	40 - 150
2348048	2,4,5-T	87.1	103	P/P	40 - 150
2348048	Acetaminophen	87.0	88.4	P/P	30 - 150
2348048	Acetamiprid	87.6	88.9	P/P	40 - 150
2348048	Afidopyropen	82.9	74.1	P/P	30 - 150
2348048	Bentazon	81.5	80.3	P/P	30 - 150
2348048	Benzovindiflupyr	103	104	P/P	40 - 150
2348048	Carbamazepine	112	115	P/P	40 - 150
2348048	Clothianidin	114	123	P/P	40 - 150
2348048	Dinotefuran	126	131	P/P	40 - 150
2348048	Diuron	87.4	92.4	P/P	40 - 150
2348048	Fenuron	99.2	98.4	P/P	40 - 150
2348048	Fluridone	96.4	117	P/P	40 - 150
2348048	Hydrocodone	108	121	P/P	40 - 150
2348048	Ibuprofen	70.2	92.7	P/P	40 - 150
2348048	Imazapyr	109	126	P/P	40 - 150
2348048	Imidacloprid	131	132	P/P	40 - 150
2348048	Linuron	136	92.0	P/P	40 - 150
2348048	Mandestrobin	100	104	P/P	40 - 150
2348048	MCCP	95.0	113	P/P	40 - 150
2348048	Naproxen	85.0	82.8	P/P	40 - 150
2348048	Primidone	99.1	99.4	P/P	40 - 150
2348048	Pyraclostrobin	97.7	104	P/P	40 - 150
2348048	Silvex	90.4	111	P/P	40 - 150
2348048	Thiamethoxam	137	140	P/P	40 - 150
2348048	Tolfenpyrad	62.5	59.2	P/P	30 - 150
2348048	Triclopyr	83.1	96.9	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P418000

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348451	Acesulfame K	91.9	91.1	P/P	40 - 150
2348451	AMPA	105	104	P/P	40 - 150
2348451	Endothall	107	106	P/P	40 - 150
2348451	Glufosinate	106	111	P/P	40 - 150
2348451	Glyphosate	101	99.6	P/P	40 - 150
2348451	Sucralose	99.1	103	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P417968

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348048	2,4-D	20.4	Spike	P	0 - 30
2348048	2,4,5-T	16.5	Spike	P	0 - 30
2348048	Acetaminophen	1.60	Spike	P	0 - 30
2348048	Acetamiprid	1.57	Spike	P	0 - 30
2348048	Afidopyropen	11.2	Spike	P	0 - 30
2348048	Bentazon	1.55	Spike	P	0 - 30
2348048	Benzovindiflupyr	1.15	Spike	P	0 - 30
2348048	Carbamazepine	2.63	Spike	P	0 - 30
2348048	Clothianidin	7.87	Spike	P	0 - 30
2348048	Dinotefuran	3.63	Spike	P	0 - 30
2348048	Diuron	5.54	Spike	P	0 - 30
2348048	Fenuron	0.820	Spike	P	0 - 30
2348048	Fluridone	19.1	Spike	P	0 - 30
2348048	Hydrocodone	10.9	Spike	P	0 - 30
2348048	Ibuprofen	27.7	Spike	P	0 - 30
2348048	Imazapyr	14.0	Spike	P	0 - 30
2348048	Imidacloprid	1.39	Spike	P	0 - 30
2348048	Linuron	38.4	Spike	F	0 - 30
2348048	Mandestrobin	3.60	Spike	P	0 - 30
2348048	MCPP	17.1	Spike	P	0 - 30
2348048	Naproxen	2.61	Spike	P	0 - 30
2348048	Primidone	0.312	Spike	P	0 - 30
2348048	Pyraclostrobin	6.64	Spike	P	0 - 30
2348048	Silvex	20.9	Spike	P	0 - 30
2348048	Thiamethoxam	2.01	Spike	P	0 - 30
2348048	Tolfenpyrad	5.46	Spike	P	0 - 30
2348048	Triclopyr	15.3	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P418000

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348451	Acesulfame K	0.887	Spike	P	0 - 30
2348451	AMPA	1.08	Spike	P	0 - 30
2348451	Endothall	1.04	Spike	P	0 - 30
2348451	Glufosinate	3.93	Spike	P	0 - 30
2348451	Glyphosate	1.19	Spike	P	0 - 30
2348451	Sucralose	4.24	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2348516

Field Sample ID: G1TLHR0171

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	103	P	30 - 160
EPA 8321B	Acetaminophen-d4	57.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	106	P	30 - 160
EPA 8321B	Diuron-d6	91.5	P	30 - 160
EPA 8321B	Endothall-d6	117	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	99.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	78.3	P	30 - 160
EPA 8321B	Primidone-d5	117	P	30 - 160
EPA 8321B	Sucralose-d6	98.8	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A114121
Included Lab Sample IDs: 2348516

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	105	87.9	P/P	50 - 150
2,4,5-T	122	120	P/P	50 - 150
Acetaminophen	110	107	P/P	60 - 160
Acetamiprid	75.0	90.6	P/P	50 - 150
Afidopyropen	86.3	94.4	P/P	50 - 150
Bentazon	102	101	P/P	50 - 160
Benzovindiflupyr	113	119	P/P	50 - 150
Carbamazepine	116	115	P/P	60 - 150
Clothianidin	79.8	71.9	P/P	60 - 150
Dinotefuran	104	111	P/P	50 - 150
Diuron	105	101	P/P	60 - 160
Fenuron	75.0	81.7	P/P	60 - 150
Fluridone	107	104	P/P	60 - 160
Hydrocodone	85.2	78.0	P/P	60 - 150
Ibuprofen	73.5	97.6	P/P	50 - 160
Imazapyr	76.3	70.1	P/P	50 - 150
Imidacloprid	84.3	86.8	P/P	60 - 150
Linuron	125	141	P/P	60 - 150
Mandestrobin	109	115	P/P	50 - 150
MCPP	108	106	P/P	50 - 150
Naproxen	98.4	143	P/P	50 - 160
Primidone	92.7	93.5	P/P	60 - 150
Pyraclostrobin	116	123	P/P	60 - 150
Silvex	112	91.2	P/P	50 - 150
Thiamethoxam	79.7	80.1	P/P	50 - 150
Tolfenpyrad	105	107	P/P	60 - 150
Triclopyr	94.1	112	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A114141
Included Lab Sample IDs: 2348516

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	94.5	92.7	P/P	60 - 160
Sucralose	96.3	98.1	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A114174
Included Lab Sample IDs: 2348516

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	100	78.4	P/P	60 - 160
Endothall	108	119	P/P	60 - 160
Glufosinate	100	127	P/P	60 - 160
Glyphosate	97.2	80.3	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	119	93.9	115		20.4
	2,4,5-T	99.8	87.1	103		16.5
	Acesulfame K	104	91.9	91.1		0.887
	Acetaminophen	91.4	87.0	88.4		1.60
	Acetamiprid	95.5	87.6	88.9		1.57
	Afidopyropen	73.4	82.9	74.1		11.2
	AMPA	108	105	104		1.08
	Bentazon	99.2	81.5	80.3		1.55
	Benzovindiflupyr	108	103	104		1.15
	Carbamazepine	108	112	115		2.63
	Clothianidin	102	114	123		7.87
	Dinotefuran	108	126	131		3.63
	Diuron	77.5	87.4	92.4		5.54
	Endothall	112	107	106		1.04
	Fenuron	104	99.2	98.4		0.820
	Fluridone	106	96.4	117		19.1
	Glufosinate	125	106	111		3.93
	Glyphosate	111	101	99.6		1.19
	Hydrocodone	103	108	121		10.9
	Ibuprofen	119	70.2	92.7		27.7
	Imazapyr	110	109	126		14.0
	Imidacloprid	100	131	132		1.39
	Linuron	97.7	136	92.0		38.4
	Mandestrobin	107	100	104		3.60
	MCPP	111	95.0	113		17.1
	Naproxen	84.4	85.0	82.8		2.61
	Primidone	100	99.1	99.4		0.312
	Pyraclostrobin	100	97.7	104		6.64
	Silvex	111	90.4	111		20.9
	Sucralose	109	99.1	103		4.24
	Thiamethoxam	114	137	140		2.01
	Tolfenpyrad	86.7	62.5	59.2		5.46
	Triclopyr	96.0	83.1	96.9		15.3

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2348516

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	08/11/2022	08/15/2022 09:00	Hoor Shaik	08/16/2022 10:07	Juyoung Kim	2348516
	08/11/2022	08/16/2022 13:00	Umesh Chiluwal	08/16/2022 16:28	Umesh Chiluwal	2348516
	08/11/2022	08/16/2022 13:00	Umesh Chiluwal	08/17/2022 00:31	Umesh Chiluwal	2348516