

Chemical Analysis Report

TLH-ROC-2020-09-15-01

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

Event Description: **Run 1**
Request ID: **RQ-2020-09-14-33**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
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Certified by: Colin Wright, Program Administrator

Date Certified: 29-SEP-2020 08:31

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: Jumping Gulley Creek

Collection Date/Time: 09/15/2020 10:55

Field ID: G1TLHR0033

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2196164	EPA 8321B	2,4-D	0.015		ug/L	P387357	
		Acesulfame K**	0.10	U	ug/L	P387349	
		AMPA**	0.10	U	ug/L	P387349	
		Sucralose**	0.037	I	ug/L	P387349	
		Acetaminophen**	0.0080	U	ug/L	P387357	
		Acetamiprid**	0.0020	U	ug/L	P387357	
		Endothall**	0.25	U	ug/L	P387349	
		Glufosinate**	0.10	U	ug/L	P387349	
		Glyphosate**	0.10	U	ug/L	P387349	
		Afidopyropen**	0.0020	U	ug/L	P387357	
		Bentazon	8.0E-04	U	ug/L	P387357	
		Benzovindiflupyr**	0.0020	U	ug/L	P387357	
		Carbamazepine**	8.0E-04	U	ug/L	P387357	
		Clothianidin**	0.0020	U	ug/L	P387357	
		Dinotefuran**	0.0020	U	ug/L	P387357	
		Diuron	1.2		ug/L	P387357	
		Fenuron	0.016	U	ug/L	P387357	
		Fluridone**	8.0E-04	U	ug/L	P387357	
		Imazapyr**	0.093		ug/L	P387357	
		Hydrocodone**	0.0020	U	ug/L	P387357	
		Ibuprofen**	0.020	U	ug/L	P387357	
		Imidacloprid	0.0020	U	ug/L	P387357	
		Linuron	0.0040	U	ug/L	P387357	
		Mandestrobin**	0.0020	U	ug/L	P387357	
		MCPP	0.0020	U	ug/L	P387357	
		Naproxen**	0.0080	U	ug/L	P387357	
		Primidone**	0.0040	U	ug/L	P387357	
		Pyraclostrobin**	0.0020	U	ug/L	P387357	
		Thiamethoxam**	0.0020	U	ug/L	P387357	
		Tolfenpyrad**	0.0020	U	ug/L	P387357	
		Triclopyr**	0.0040	U	ug/L	P387357	

Ref. Method and Comment:

EPA 8321B: MS accuracy and precision for diuron 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: P387349

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: P387357

Component	Result	Code	Units
2,4-D	0.0020	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
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: P387349

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	99.2		P	40 - 150
AMPA	92.7		P	40 - 150
Endothall	102		P	40 - 150
Glufosinate	98.1		P	40 - 150
Glyphosate	138		P	40 - 140
Sucralose	108		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P387357

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	137		P	30 - 160
Acetaminophen	91.5		P	30 - 160
Acetamiprid	74.9		P	30 - 160
Afidopyropen	52.7		P	30 - 160
Bentazon	64.2		P	30 - 160
Benzovindiflupyr	72.3		P	30 - 160
Carbamazepine	64.5		P	30 - 160
Clothianidin	81.5		P	30 - 160
Dinotefuran	93.9		P	30 - 160
Diuron	56.5		P	30 - 160
Fenuron	92.8		P	30 - 160
Fluridone	77.0		P	30 - 160
Hydrocodone	82.3		P	30 - 160
Ibuprofen	67.1		P	30 - 160
Imazapyr	106		P	30 - 160
Imidacloprid	100		P	30 - 160
Linuron	57.1		P	30 - 160
Mandestrobin	79.6		P	30 - 160
MCPP	120		P	30 - 160
Naproxen	72.2		P	30 - 160
Primidone	82.2		P	30 - 160
Pyraclostrobin	62.1		P	30 - 160
Thiamethoxam	76.3		P	30 - 160
Tolfenpyrad	46.1		P	30 - 160
Triclopyr	117		P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P387349

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2195947	Acesulfame K	110	109	P/P	40 - 150
2195947	AMPA	92.1	95.0	P/P	40 - 150
2195947	Endothall	118	121	P/P	40 - 150
2195947	Glufosinate	88.2	93.1	P/P	40 - 150
2195947	Glyphosate	111	107	P/P	40 - 140
2195947	Sucralose	70.9	89.1	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P387357

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196164	2,4-D	62.4	54.0	P/P	30 - 160
2196164	Acetaminophen	94.0	93.5	P/P	30 - 160
2196164	Acetamiprid	68.7	64.4	P/P	30 - 160
2196164	Afidopyropen	55.8	43.7	P/P	30 - 160
2196164	Bentazon	43.5	39.0	P/P	30 - 160
2196164	Benzovindiflupyr	69.2	64.5	P/P	30 - 160
2196164	Carbamazepine	56.7	52.3	P/P	30 - 160
2196164	Clothianidin	68.9	62.2	P/P	30 - 160
2196164	Dinotefuran	85.1	83.3	P/P	30 - 160
2196164	Fenuron	73.4	72.2	P/P	30 - 160
2196164	Fluridone	76.1	73.4	P/P	30 - 160
2196164	Hydrocodone	73.8	70.6	P/P	30 - 160
2196164	Ibuprofen	77.0	68.1	P/P	30 - 160
2196164	Imazapyr	86.4	81.7	P/P	30 - 160
2196164	Imidacloprid	136	127	P/P	30 - 160
2196164	Linuron	65.1	59.2	P/P	30 - 160
2196164	Mandestrobin	81.7	76.4	P/P	30 - 160
2196164	MCP	101	99.6	P/P	30 - 160
2196164	Naproxen	81.8	75.5	P/P	30 - 160
2196164	Primidone	73.3	67.8	P/P	30 - 160
2196164	Pyraclostrobin	62.0	52.5	P/P	30 - 160
2196164	Thiamethoxam	82.1	80.3	P/P	30 - 160
2196164	Tolfenpyrad	41.6	40.4	P/P	30 - 160
2196164	Triclopyr	95.8	88.4	P/P	30 - 160

Quality Assurance Report

Precision

Reference Method: EPA 8321B

Batch ID: P387349

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2195947	Acesulfame K	0.569	Spike	P	0 - 30
2195947	AMPA	3.06	Spike	P	0 - 30
2195947	Endothall	2.26	Spike	P	0 - 30
2195947	Glufosinate	5.37	Spike	P	0 - 30
2195947	Glyphosate	3.50	Spike	P	0 - 30
2195947	Sucralose	22.2	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P387357

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196164	2,4-D	10.9	Spike	P	0 - 30
2196164	Acetaminophen	0.585	Spike	P	0 - 30
2196164	Acetamiprid	6.51	Spike	P	0 - 30
2196164	Afidopyropen	24.3	Spike	P	0 - 30
2196164	Bentazon	10.9	Spike	P	0 - 30
2196164	Benzovindiflupyr	6.99	Spike	P	0 - 30
2196164	Carbamazepine	8.02	Spike	P	0 - 30
2196164	Clothianidin	10.1	Spike	P	0 - 30
2196164	Dinotefuran	2.15	Spike	P	0 - 30
2196164	Fenuron	1.69	Spike	P	0 - 30
2196164	Fluridone	3.56	Spike	P	0 - 30
2196164	Hydrocodone	4.41	Spike	P	0 - 30
2196164	Ibuprofen	12.2	Spike	P	0 - 30
2196164	Imazapyr	2.35	Spike	P	0 - 30
2196164	Imidacloprid	7.17	Spike	P	0 - 30
2196164	Linuron	9.50	Spike	P	0 - 30
2196164	Mandestrobin	6.74	Spike	P	0 - 30
2196164	MCPP	1.41	Spike	P	0 - 30
2196164	Naproxen	8.01	Spike	P	0 - 30
2196164	Primidone	7.75	Spike	P	0 - 30
2196164	Pyraclostrobin	16.6	Spike	P	0 - 30
2196164	Thiamethoxam	2.16	Spike	P	0 - 30
2196164	Tolfenpyrad	3.05	Spike	P	0 - 30
2196164	Triclopyr	8.07	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2196164

Field Sample ID: G1TLHR0033

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	105	P	30 - 160
EPA 8321B	Acetaminophen-d4	75.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	55.5	P	30 - 160
EPA 8321B	Diuron-d6	49.9	P	30 - 160
EPA 8321B	Endothall-d6	120	P	30 - 160
EPA 8321B	Endothall-d6	120	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	107	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	107	P	30 - 160
EPA 8321B	Ibuprofen-d3	60.6	P	30 - 160
EPA 8321B	Primidone-d5	66.2	P	30 - 160
EPA 8321B	Sucralose-d6	92.7	P	30 - 160
EPA 8321B	Sucralose-d6	92.7	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A101044
Included Lab Sample IDs: 2196164

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	137	107	P/P	50 - 150
Acetaminophen	106	112	P/P	60 - 160
Acetamiprid	114	111	P/P	50 - 150
Afidopyropen	99.3	98.1	P/P	50 - 150
Bentazon	111	111	P/P	50 - 160
Benzovindiflupyr	111	109	P/P	50 - 150
Carbamazepine	105	99.0	P/P	60 - 150
Clothianidin	86.8	89.6	P/P	60 - 150
Dinotefuran	93.8	82.2	P/P	50 - 150
Fenuron	105	105	P/P	60 - 150
Fluridone	117	109	P/P	60 - 160
Hydrocodone	103	103	P/P	60 - 150
Ibuprofen	104	101	P/P	50 - 160
Imazapyr	118	88.5	P/P	50 - 160
Imidacloprid	86.4	90.6	P/P	60 - 150
Linuron	99.1	104	P/P	60 - 150
Mandestrobin	95.7	106	P/P	50 - 150
MCPP	115	120	P/P	50 - 150
Naproxen	68.4	99.5	P/P	50 - 160
Primidone	87.1	85.4	P/P	60 - 150
Pyraclostrobin	95.9	97.1	P/P	60 - 150
Thiamethoxam	97.5	94.7	P/P	50 - 150
Tolfenpyrad	95.6	95.0	P/P	60 - 150
Triclopyr	115	97.7	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A101049
Included Lab Sample IDs: 2196164

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	89.0	90.3	P/P	60 - 160
Endothall	104	111	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A101051
Included Lab Sample IDs: 2196164

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	91.4	89.5	P/P	60 - 160
Glufosinate	95.2	92.5	P/P	60 - 160
Glyphosate	141	144	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A101172
Included Lab Sample IDs: 2196164

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Diuron	115	114	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A101182

Included Lab Sample IDs: 2196164

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	118	119	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	137	62.4	54.0		10.9
	Acesulfame K	99.2	110	109		0.569
	Acetaminophen	91.5	94.0	93.5		0.585
	Acetamiprid	74.9	68.7	64.4		6.51
	Afidopyropen	52.7	55.8	43.7		24.3
	AMPA	92.7	92.1	95.0		3.06
	Bentazon	64.2	43.5	39.0		10.9
	Benzovindiflupyr	72.3	69.2	64.5		6.99
	Carbamazepine	64.5	56.7	52.3		8.02
	Clothianidin	81.5	68.9	62.2		10.1
	Dinotefuran	93.9	85.1	83.3		2.15
	Diuron	56.5				
	Endothall	102	118	121		2.26
	Fenuron	92.8	73.4	72.2		1.69
	Fluridone	77.0	76.1	73.4		3.56
	Glufosinate	98.1	88.2	93.1		5.37
	Glyphosate	138	111	107		3.50
	Hydrocodone	82.3	73.8	70.6		4.41
	Ibuprofen	67.1	77.0	68.1		12.2
	Imazapyr	106	86.4	81.7		2.35
	Imidacloprid	100	136	127		7.17
	Linuron	57.1	65.1	59.2		9.50
	Mandestrobin	79.6	81.7	76.4		6.74
	MCPP	120	101	99.6		1.41
	Naproxen	72.2	81.8	75.5		8.01
	Primidone	82.2	73.3	67.8		7.75
	Pyraclostrobin	62.1	62.0	52.5		16.6
	Sucralose	108	70.9	89.1		22.2
	Thiamethoxam	76.3	82.1	80.3		2.16
	Tolfenpyrad	46.1	41.6	40.4		3.05
	Triclopyr	117	95.8	88.4		8.07

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2196164
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2196164

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	09/15/2020	09/15/2020 13:25	Rebecca Ware	09/15/2020 14:16	Rebecca Ware	2196164
	09/15/2020	09/15/2020 13:25	Rebecca Ware	09/15/2020 20:04	Rebecca Ware	2196164
	09/15/2020	09/15/2020 13:25	Rebecca Ware	09/23/2020 17:43	Rebecca Ware	2196164
	09/15/2020	09/16/2020 09:00	Hoor Shaik	09/19/2020 07:21	Juyoung Kim	2196164
	09/15/2020	09/16/2020 09:00	Hoor Shaik	09/24/2020 01:25	Juyoung Kim	2196164