

Chemical Analysis Report

TLH-ROC-2020-09-08-01

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-2020-07-20-35**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
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Date Certified: 23-SEP-2020 12:29



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: 09/08/2020 10:40

Field ID: G1TLHR0033

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2194750	EPA 8321B	2,4-D	0.023		ug/L	P387149	
		Acesulfame K**	0.10	U	ug/L	P387254	
		AMPA**	0.10	I	ug/L	P387254	
		Sucralose**	0.010	U	ug/L	P387254	
		Acetaminophen**	0.0080	U	ug/L	P387149	
		Acetamiprid**	0.0020	U	ug/L	P387149	
		Endothall**	0.25	U	ug/L	P387254	
		Glufosinate**	0.10	U	ug/L	P387254	
		Glyphosate**	0.10	U	ug/L	P387254	
		Afidopyropen**	0.0020	U	ug/L	P387149	
		Bentazon	8.0E-04	U	ug/L	P387149	
		Benzovindiflupyr**	0.0020	U	ug/L	P387149	
		Carbamazepine**	8.0E-04	U	ug/L	P387149	
		Clothianidin**	0.0020	U	ug/L	P387149	
		Dinotefuran**	0.0020	U	ug/L	P387149	
		Diuron	2.2		ug/L	P387149	
		Fenuron	0.016	U	ug/L	P387149	
		Fluridone**	8.0E-04	U	ug/L	P387149	
		Imazapyr**	0.17		ug/L	P387149	
		Hydrocodone**	0.0020	U	ug/L	P387149	
		Ibuprofen**	0.020	U	ug/L	P387149	
		Imidacloprid	0.0020	U	ug/L	P387149	
		Linuron	0.0040	U	ug/L	P387149	
		Mandestrobin**	0.0020	U	ug/L	P387149	
		MCPP	0.0020	U	ug/L	P387149	
		Naproxen**	0.0080	U	ug/L	P387149	
		Primidone**	0.0040	U	ug/L	P387149	
		Pyraclostrobin**	0.0020	U	ug/L	P387149	
		Thiamethoxam**	0.0020	U	ug/L	P387149	
		Tolfenpyrad**	0.0020	U	ug/L	P387149	
		Triclopyr**	0.0040	U	ug/L	P387149	

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: P387149

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

Reference Method: EPA 8321B
Batch ID: P387254

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: P387149

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	121		P	30 - 160
Acetaminophen	94.7		P	30 - 160
Acetamiprid	68.6		P	30 - 160
Afidopyropen	48.9		P	30 - 160
Bentazon	57.4		P	30 - 160
Benzovindiflupyr	69.4		P	30 - 160
Carbamazepine	61.4		P	30 - 160
Clothianidin	79.3		P	30 - 160
Dinotefuran	91.8		P	30 - 160
Diuron	54.6		P	30 - 160
Fenuron	89.8		P	30 - 160
Fluridone	77.7		P	30 - 160
Hydrocodone	80.2		P	30 - 160
Ibuprofen	73.5		P	30 - 160
Imazapyr	94.5		P	30 - 160
Imidacloprid	98.6		P	30 - 160
Linuron	61.0		P	30 - 160
Mandestrobin	76.9		P	30 - 160
MCPP	115		P	30 - 160
Naproxen	68.3		P	30 - 160
Primidone	77.8		P	30 - 160
Pyraclostrobin	66.4		P	30 - 160
Thiamethoxam	76.6		P	30 - 160
Tolfenpyrad	51.8		P	30 - 160
Triclopyr	104		P	30 - 160

Reference Method: EPA 8321B

Batch ID: P387254

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	110		P	40 - 150
AMPA	60.4		P	40 - 150
Endothall	84.0		P	40 - 150
Glufosinate	97.6		P	40 - 150
Glyphosate	114		P	40 - 140
Sucralose	114		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P387149

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194674	Acetaminophen	88.6	91.7	P/P	30 - 160
2194674	Acetamiprid	64.9	69.0	P/P	30 - 160
2194674	Afidopyropen	53.5	48.4	P/P	30 - 160
2194674	Benzovindiflupyr	61.7	60.8	P/P	30 - 160
2194674	Carbamazepine	52.0	55.2	P/P	30 - 160
2194674	Clothianidin	64.1	64.3	P/P	30 - 160
2194674	Dinotefuran	83.8	88.0	P/P	30 - 160
2194674	Diuron	42.9	45.9	P/P	30 - 160
2194674	Fenuron	70.1	71.3	P/P	30 - 160
2194674	Hydrocodone	71.8	74.9	P/P	30 - 160
2194674	Ibuprofen	60.0	67.1	P/P	30 - 160
2194674	Imidacloprid	123	128	P/P	30 - 160
2194674	Linuron	55.4	55.4	P/P	30 - 160
2194674	Mandestrobin	72.4	74.3	P/P	30 - 160
2194674	MCCP	101	107	P/P	30 - 160
2194674	Naproxen	87.8	82.6	P/P	30 - 160
2194674	Primidone	71.9	76.3	P/P	30 - 160
2194674	Pyraclostrobin	59.2	61.6	P/P	30 - 160
2194674	Thiamethoxam	80.5	80.1	P/P	30 - 160
2194674	Tolfenpyrad	44.7	51.3	P/P	30 - 160
2194674	Triclopyr	96.3	113	P/P	30 - 160

Reference Method: EPA 8321B
 Batch ID: P387254

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2194750	Acesulfame K	104	103	P/P	40 - 150
2194750	AMPA	90.9	94.1	P/P	40 - 150
2194750	Endothall	70.3	79.6	P/P	40 - 150
2194750	Glufosinate	92.0	97.1	P/P	40 - 150
2194750	Glyphosate	120	114	P/P	40 - 140
2194750	Sucralose	95.4	96.9	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P387149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194674	2,4-D	7.92	Spike	P	0 - 30
2194674	Acetaminophen	3.39	Spike	P	0 - 30
2194674	Acetamiprid	6.08	Spike	P	0 - 30
2194674	Afidopyropen	9.85	Spike	P	0 - 30
2194674	Bentazon	3.32	Spike	P	0 - 30
2194674	Benzovindiflupyr	1.46	Spike	P	0 - 30
2194674	Carbamazepine	5.40	Spike	P	0 - 30
2194674	Clothianidin	0.388	Spike	P	0 - 30
2194674	Dinotefuran	4.49	Spike	P	0 - 30
2194674	Diuron	5.74	Spike	P	0 - 30
2194674	Fenuron	1.58	Spike	P	0 - 30
2194674	Fluridone	6.46	Spike	P	0 - 30
2194674	Hydrocodone	4.24	Spike	P	0 - 30
2194674	Ibuprofen	11.2	Spike	P	0 - 30
2194674	Imazapyr	12.4	Spike	P	0 - 30
2194674	Imidacloprid	2.83	Spike	P	0 - 30
2194674	Linuron	0.0316	Spike	P	0 - 30
2194674	Mandestrobin	2.61	Spike	P	0 - 30
2194674	MCPP	5.39	Spike	P	0 - 30
2194674	Naproxen	6.15	Spike	P	0 - 30
2194674	Primidone	5.40	Spike	P	0 - 30
2194674	Pyraclostrobin	4.00	Spike	P	0 - 30
2194674	Thiamethoxam	0.361	Spike	P	0 - 30
2194674	Tolfenpyrad	13.5	Spike	P	0 - 30
2194674	Triclopyr	15.8	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P387254

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2194750	Acesulfame K	0.805	Spike	P	0 - 30
2194750	AMPA	3.07	Spike	P	0 - 30
2194750	Endothall	12.5	Spike	P	0 - 30
2194750	Glufosinate	5.47	Spike	P	0 - 30
2194750	Glyphosate	5.22	Spike	P	0 - 30
2194750	Sucralose	1.61	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2194750

Field Sample ID: G1TLHR0033

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	135	P	30 - 160
EPA 8321B	Acetaminophen-d4	81.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	60.6	P	30 - 160
EPA 8321B	Diuron-d6	52.9	P	30 - 160
EPA 8321B	Endothall-d6	77.7	P	30 - 160
EPA 8321B	Endothall-d6	77.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	106	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	106	P	30 - 160
EPA 8321B	Ibuprofen-d3	79.6	P	30 - 160
EPA 8321B	Primidone-d5	82.2	P	30 - 160
EPA 8321B	Sucralose-d6	89.8	P	30 - 160
EPA 8321B	Sucralose-d6	89.8	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A100961
 Included Lab Sample IDs: 2194750

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	109	113	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A100976
 Included Lab Sample IDs: 2194750

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	61.1	60.3	P/P	60 - 160
Glufosinate	103	98.8	P/P	60 - 160
Glyphosate	123	120	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A100977
 Included Lab Sample IDs: 2194750

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	131	93.1	P/P	60 - 160
Endothall	100	106	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A101044
 Included Lab Sample IDs: 2194750

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	133	111	P/P	50 - 150
Acetaminophen	112	115	P/P	60 - 160
Acetamiprid	121	117	P/P	50 - 150
Afidopyropen	87.8	93.3	P/P	50 - 150
Bentazon	108	115	P/P	50 - 160
Benzovindiflupyr	110	115	P/P	50 - 150
Carbamazepine	105	106	P/P	60 - 150
Clothianidin	92.4	96.2	P/P	60 - 150
Dinotefuran	95.9	101	P/P	50 - 150
Diuron	95.6	93.5	P/P	60 - 160
Fenuron	111	101	P/P	60 - 150
Fluridone	111	111	P/P	60 - 160
Hydrocodone	104	107	P/P	60 - 150
Ibuprofen	95.0	101	P/P	50 - 160
Imazapyr	132	107	P/P	50 - 160
Imidacloprid	117	93.9	P/P	60 - 150
Linuron	88.9	85.8	P/P	60 - 150
Mandestrobin	105	103	P/P	50 - 150
MCPP	109	115	P/P	50 - 150
Naproxen	68.2	61.7	P/P	50 - 160
Primidone	109	92.1	P/P	60 - 150
Pyraclostrobin	104	97.7	P/P	60 - 150
Thiamethoxam	102	99.5	P/P	50 - 150
Tolfenpyrad	102	97.3	P/P	60 - 150
Triclopyr	113	122	P/P	50 - 150

Quality Assurance Report

Calibration Verification

* 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	121				7.92
	Acesulfame K	110	104	103		0.805
	Acetaminophen	94.7	91.7	88.6		3.39
	Acetamiprid	68.6	69.0	64.9		6.08
	Afidopyropen	48.9	48.4	53.5		9.85
	AMPA	60.4	90.9	94.1		3.07
	Bentazon	57.4				3.32
	Benzovindiflupyr	69.4	60.8	61.7		1.46
	Carbamazepine	61.4	55.2	52.0		5.40
	Clothianidin	79.3	64.3	64.1		0.388
	Dinotefuran	91.8	88.0	83.8		4.49
	Diuron	54.6	45.9	42.9		5.74
	Endothall	84.0	70.3	79.6		12.5
	Fenuron	89.8	71.3	70.1		1.58
	Fluridone	77.7				6.46
	Glufosinate	97.6	92.0	97.1		5.47
	Glyphosate	114	120	114		5.22
	Hydrocodone	80.2	74.9	71.8		4.24
	Ibuprofen	73.5	60.0	67.1		11.2
	Imazapyr	94.5				12.4
	Imidacloprid	98.6	128	123		2.83
	Linuron	61.0	55.4	55.4		0.0316
	Mandestrobin	76.9	74.3	72.4		2.61
	MCPP	115	101	107		5.39
	Naproxen	68.3	87.8	82.6		6.15
	Primidone	77.8	76.3	71.9		5.40
	Pyraclostrobin	66.4	59.2	61.6		4.00
	Sucralose	114	95.4	96.9		1.61
	Thiamethoxam	76.6	80.1	80.5		0.361
	Tolfenpyrad	51.8	44.7	51.3		13.5
	Triclopyr	104	96.3	113		15.8

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2194750
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2194750

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	09/08/2020	09/10/2020 08:00	Hoor Shaik	09/18/2020 19:13	Juyoung Kim	2194750
	09/08/2020	09/10/2020 08:00	Hoor Shaik	09/21/2020 10:04	Juyoung Kim	2194750
	09/08/2020	09/11/2020 14:00	Rebecca Ware	09/11/2020 23:35	Rebecca Ware	2194750
	09/08/2020	09/11/2020 14:00	Rebecca Ware	09/14/2020 11:52	Rebecca Ware	2194750
	09/08/2020	09/11/2020 14:00	Rebecca Ware	09/14/2020 17:21	Rebecca Ware	2194750