

Chemical Analysis Report

NW-DIST-2020-05-20-01

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

Event Description: **Defuniak Run**
Request ID: **RQ-2020-05-18-36**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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Certified by: Colin Wright, Program Administrator

Date Certified: 05-JUN-2020 12:02

A handwritten signature in black ink, appearing to read "Colin Wright", is positioned 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: HUCKLEBERRY CREEK

Collection Date/Time: 05/19/2020 12:10

Field ID: G3NW0135

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2172568	EPA 8321B	2,4-D	0.29		ug/L	P382504	
		Acesulfame K**	0.10	U	ug/L	P382477	
		AMPA**	0.10	U	ug/L	P382477	
		Sucralose**	0.066		ug/L	P382477	
		Acetaminophen**	0.0080	U	ug/L	P382504	
		Acetamiprid**	0.0020	U	ug/L	P382504	
		Endothall**	0.25	U	ug/L	P382477	
		Glufosinate**	0.10	U	ug/L	P382477	
		Glyphosate**	0.10	U	ug/L	P382477	
		Afidopyropen**	0.0020	U	ug/L	P382504	
		Bentazon	8.0E-04	U	ug/L	P382504	
		Benzovindiflupyr**	0.0020	U	ug/L	P382504	
		Carbamazepine**	8.0E-04	U	ug/L	P382504	
		Clothianidin**	0.0020	U	ug/L	P382504	
		Dinotefuran**	0.0020	U	ug/L	P382504	
		Diuron	0.0020	U	ug/L	P382504	
		Fenuron	0.016	U	ug/L	P382504	
		Fluridone**	8.0E-04	U	ug/L	P382504	
		Imazapyr**	0.023		ug/L	P382504	
		Hydrocodone**	0.0020	U	ug/L	P382504	
		Ibuprofen**	0.020	U	ug/L	P382504	
		Imidacloprid	0.0020	U	ug/L	P382504	
		Linuron	0.0040	U	ug/L	P382504	
		Mandestrobin**	0.0020	U	ug/L	P382504	
		MCPP	0.0020	U	ug/L	P382504	
		Naproxen**	0.0080	U	ug/L	P382504	
		Primidone**	0.0040	U	ug/L	P382504	
		Pyraclostrobin**	0.0020	U	ug/L	P382504	
		Thiamethoxam**	0.0020	U	ug/L	P382504	
		Tolfenpyrad**	0.0020	U	ug/L	P382504	
		Triclopyr**	0.0040	U	ug/L	P382504	

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: P382477

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: P382504

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: P382477

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	74.8		P	40 - 150
AMPA	98.1		P	40 - 150
Endothall	96.4		P	40 - 150
Glufosinate	93.1		P	40 - 150
Glyphosate	114		P	40 - 140
Sucralose	108		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P382504

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	134		P	30 - 160
Acetaminophen	97.0		P	30 - 160
Acetamiprid	94.2		P	30 - 160
Afidopyropen	86.2		P	30 - 160
Bentazon	69.6		P	30 - 160
Benzovindiflupyr	85.0		P	30 - 160
Carbamazepine	76.5		P	30 - 160
Clothianidin	92.5		P	30 - 160
Dinotefuran	90.3		P	30 - 160
Diuron	63.0		P	30 - 160
Fenuron	97.8		P	30 - 160
Fluridone	92.5		P	30 - 160
Hydrocodone	85.5		P	30 - 160
Ibuprofen	83.0		P	30 - 160
Imazapyr	87.8		P	30 - 160
Imidacloprid	100		P	30 - 160
Linuron	65.3		P	30 - 160
Mandestrobin	91.5		P	30 - 160
MCPP	135		P	30 - 160
Naproxen	83.1		P	30 - 160
Primidone	91.1		P	30 - 160
Pyraclostrobin	91.8		P	30 - 160
Thiamethoxam	82.3		P	30 - 160
Tolfenpyrad	63.2		P	30 - 160
Triclopyr	117		P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P382477

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2172568	Acesulfame K	86.0	85.4	P/P	40 - 150
2172568	AMPA	123	127	P/P	40 - 150
2172568	Endothall	105	108	P/P	40 - 150
2172568	Glufosinate	98.6	107	P/P	40 - 150
2172568	Glyphosate	116	116	P/P	40 - 140
2172568	Sucralose	98.5	98.5	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P382504

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2172568	Acetaminophen	104	111	P/P	30 - 160
2172568	Acetamiprid	79.4	87.7	P/P	30 - 160
2172568	Afidopyropen	74.8	82.1	P/P	30 - 160
2172568	Bentazon	58.5	61.6	P/P	30 - 160
2172568	Benzovindiflupyr	68.3	76.4	P/P	30 - 160
2172568	Carbamazepine	61.5	75.2	P/P	30 - 160
2172568	Clothianidin	91.5	111	P/P	30 - 160
2172568	Dinotefuran	96.7	101	P/P	30 - 160
2172568	Diuron	50.0	60.5	P/P	30 - 160
2172568	Fenuron	75.5	81.2	P/P	30 - 160
2172568	Fluridone	86.8	92.3	P/P	30 - 160
2172568	Hydrocodone	71.5	76.4	P/P	30 - 160
2172568	Ibuprofen	74.3	76.2	P/P	30 - 160
2172568	Imazapyr	133	135	P/P	30 - 160
2172568	Imidacloprid	145	154	P/P	30 - 160
2172568	Linuron	56.6	68.0	P/P	30 - 160
2172568	Mandestrobin	85.7	87.0	P/P	30 - 160
2172568	MCPP	152	142	P/P	30 - 160
2172568	Naproxen	80.1	84.6	P/P	30 - 160
2172568	Primidone	97.2	101	P/P	30 - 160
2172568	Pyraclostrobin	80.3	81.2	P/P	30 - 160
2172568	Thiamethoxam	89.5	100	P/P	30 - 160
2172568	Tolfenpyrad	55.5	59.4	P/P	30 - 160
2172568	Triclopyr	134	120	P/P	30 - 160

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P382477

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2172568	Acesulfame K	0.741	Spike	P	0 - 30
2172568	AMPA	3.22	Spike	P	0 - 30
2172568	Endothall	2.43	Spike	P	0 - 30
2172568	Glufosinate	8.31	Spike	P	0 - 30
2172568	Glyphosate	0.00172	Spike	P	0 - 30
2172568	Sucralose	0.0123	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P382504

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2172568	2,4-D	12.4	Spike	P	0 - 30
2172568	Acetaminophen	7.13	Spike	P	0 - 30
2172568	Acetamiprid	9.88	Spike	P	0 - 30
2172568	Afidopyropen	9.21	Spike	P	0 - 30
2172568	Bentazon	5.27	Spike	P	0 - 30
2172568	Benzovindiflupyr	11.1	Spike	P	0 - 30
2172568	Carbamazepine	20.0	Spike	P	0 - 30
2172568	Clothianidin	18.9	Spike	P	0 - 30
2172568	Dinotefuran	4.63	Spike	P	0 - 30
2172568	Diuron	19.2	Spike	P	0 - 30
2172568	Fenuron	7.32	Spike	P	0 - 30
2172568	Fluridone	6.18	Spike	P	0 - 30
2172568	Hydrocodone	6.59	Spike	P	0 - 30
2172568	Ibuprofen	2.57	Spike	P	0 - 30
2172568	Imazapyr	1.31	Spike	P	0 - 30
2172568	Imidacloprid	6.09	Spike	P	0 - 30
2172568	Linuron	18.3	Spike	P	0 - 30
2172568	Mandestrobin	1.49	Spike	P	0 - 30
2172568	MCPP	7.24	Spike	P	0 - 30
2172568	Naproxen	5.46	Spike	P	0 - 30
2172568	Primidone	3.62	Spike	P	0 - 30
2172568	Pyraclostrobin	1.09	Spike	P	0 - 30
2172568	Thiamethoxam	11.0	Spike	P	0 - 30
2172568	Tolfenpyrad	6.88	Spike	P	0 - 30
2172568	Triclopyr	10.9	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2172568

Field Sample ID: G3NW0135

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	132	P	30 - 160
EPA 8321B	Acetaminophen-d4	96.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	62.6	P	30 - 160
EPA 8321B	Diuron-d6	55.4	P	30 - 160
EPA 8321B	Endothall-d6	122	P	30 - 160
EPA 8321B	Endothall-d6	122	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	135	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	135	P	30 - 160
EPA 8321B	Ibuprofen-d3	85.2	P	30 - 160
EPA 8321B	Primidone-d5	103	P	30 - 160
EPA 8321B	Sucralose-d6	88.8	P	30 - 160
EPA 8321B	Sucralose-d6	88.8	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A99061
 Included Lab Sample IDs: 2172568

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	76.2	81.2	P/P	30 - 200
Glufosinate	76.6	90.2	P/P	30 - 200
Glyphosate	110	124	P/P	30 - 200

Reference Method: EPA 8321B
 Run ID: A99062
 Included Lab Sample IDs: 2172568

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	89.4	81.4	P/P	30 - 200
Endothall	94.4	106	P/P	30 - 200

Reference Method: EPA 8321B
 Run ID: A99098
 Included Lab Sample IDs: 2172568

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	111	97.4	P/P	50 - 150
Acetaminophen	113	112	P/P	60 - 160
Acetamiprid	103	107	P/P	50 - 150
Afidopyropen	112	107	P/P	50 - 150
Bentazon	121	116	P/P	50 - 160
Benzovindiflupyr	103	104	P/P	50 - 150
Carbamazepine	119	114	P/P	60 - 150
Clothianidin	109	116	P/P	60 - 150
Dinotefuran	103	107	P/P	50 - 150
Diuron	110	113	P/P	60 - 160
Fenuron	118	120	P/P	60 - 150
Fluridone	102	102	P/P	60 - 160
Hydrocodone	115	118	P/P	60 - 150
Ibuprofen	119	92.1	P/P	50 - 160
Imazapyr	115	106	P/P	50 - 150
Imidacloprid	111	106	P/P	60 - 150
Linuron	102	97.8	P/P	60 - 150
Mandestrobin	119	117	P/P	50 - 150
MCPP	113	109	P/P	50 - 150
Naproxen	76.2	110	P/P	50 - 160
Primidone	105	106	P/P	60 - 150
Pyraclostrobin	112	114	P/P	60 - 150
Thiamethoxam	107	113	P/P	50 - 150
Tolfenpyrad	111	114	P/P	60 - 150
Triclopyr	96.5	80.8	P/P	50 - 150

Reference Method: EPA 8321B
 Run ID: A99164
 Included Lab Sample IDs: 2172568

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	107	96.7	P/P	30 - 200

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	134				12.4
	Acesulfame K	74.8	86.0	85.4		0.741
	Acetaminophen	97.0	104	111		7.13
	Acetamiprid	94.2	79.4	87.7		9.88
	Afidopyropen	86.2	74.8	82.1		9.21
	AMPA	98.1	123	127		3.22
	Bentazon	69.6	58.5	61.6		5.27
	Benzovindiflupyr	85.0	68.3	76.4		11.1
	Carbamazepine	76.5	61.5	75.2		20.0
	Clothianidin	92.5	91.5	111		18.9
	Dinotefuran	90.3	96.7	101		4.63
	Diuron	63.0	50.0	60.5		19.2
	Endothall	96.4	105	108		2.43
	Fenuron	97.8	75.5	81.2		7.32
	Fluridone	92.5	86.8	92.3		6.18
	Glufosinate	93.1	98.6	107		8.31
	Glyphosate	114	116	116		0.0017
	Hydrocodone	85.5	71.5	76.4		6.59
	Ibuprofen	83.0	74.3	76.2		2.57
	Imazapyr	87.8	133	135		1.31
	Imidacloprid	100	145	154		6.09
	Linuron	65.3	56.6	68.0		18.3
	Mandestrobin	91.5	85.7	87.0		1.49
	MCPP	135	152	142		7.24
	Naproxen	83.1	80.1	84.6		5.46
	Primidone	91.1	97.2	101		3.62
	Pyraclostrobin	91.8	80.3	81.2		1.09
	Sucralose	108	98.5	98.5		0.0123
	Thiamethoxam	82.3	89.5	100		11.0
	Tolfenpyrad	63.2	55.5	59.4		6.88
	Triclopyr	117	134	120		10.9

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2172568
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2172568

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	05/20/2020	05/21/2020 15:45	Rebecca Ware	05/22/2020 10:25	Rebecca Ware	2172568
	05/20/2020	05/21/2020 15:45	Rebecca Ware	05/22/2020 14:05	Rebecca Ware	2172568
	05/20/2020	05/21/2020 15:45	Rebecca Ware	06/03/2020 18:01	Rebecca Ware	2172568
	05/20/2020	05/26/2020 09:00	Hoor Shaik	05/28/2020 02:48	Juyoung Kim	2172568