

Chemical Analysis Report

NW-DIST-2021-01-08-01

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

Event Description: **Eglin East Run**
Request ID: **RQ-2021-01-04-50**
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: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 25-JAN-2021 11:51

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first few letters of the last name.

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: Little Alaqua Creek above Eglin AFB Road 208 Collection Date/Time: 01/07/2021 11:45

Field ID: G3NW0453

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2217794	EPA 8321B	2,4-D	0.0020	U	ug/L	P392144	
		Acesulfame K**	0.10	U	ug/L	P392242	
		AMPA**	0.10	U	ug/L	P392242	
		Sucralose**	0.021	I	ug/L	P392242	
		Acetaminophen**	0.016	I	ug/L	P392144	
		Acetamiprid**	0.0020	U	ug/L	P392144	
		Endothall**	0.25	U	ug/L	P392242	
		Glufosinate**	0.10	U	ug/L	P392242	
		Glyphosate**	0.10	U	ug/L	P392242	
		Afidopyropen**	0.0020	U	ug/L	P392144	
		Bentazon	8.0E-04	U	ug/L	P392144	
		Benzovindiflupyr**	0.0020	U	ug/L	P392144	
		Carbamazepine**	8.0E-04	U	ug/L	P392144	
		Clothianidin**	0.0020	U	ug/L	P392144	
		Dinotefuran**	0.0020	U	ug/L	P392144	
		Diuron	0.0020	U	ug/L	P392144	
		Fenuron	0.016	U	ug/L	P392144	
		Fluridone**	8.0E-04	U	ug/L	P392144	
		Imazapyr**	0.0040	U	ug/L	P392144	
		Hydrocodone**	0.0020	U	ug/L	P392144	
		Ibuprofen**	0.020	U	ug/L	P392144	
		Imidacloprid	0.0020	U	ug/L	P392144	
		Linuron	0.0040	U	ug/L	P392144	
		Mandestrobin**	0.0020	U	ug/L	P392144	
		MCPP	0.0020	U	ug/L	P392144	
		Naproxen**	0.0080	U	ug/L	P392144	
		Primidone**	0.0040	U	ug/L	P392144	
		Pyraclostrobin**	0.0020	U	ug/L	P392144	
		Thiamethoxam**	0.0020	U	ug/L	P392144	
		Tolfenpyrad**	0.0020	U	ug/L	P392144	
		Triclopyr**	0.0040	U	ug/L	P392144	

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: P392144

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
MCPPP	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: P392242

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: P392144

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	118		P	30 - 160
Acetaminophen	74.6		P	30 - 160
Acetamiprid	92.6		P	30 - 160
Afidopyropen	80.5		P	30 - 160
Bentazon	87.0		P	30 - 160
Benzovindiflupyr	78.4		P	30 - 160
Carbamazepine	77.8		P	30 - 160
Clothianidin	98.7		P	30 - 160
Dinotefuran	87.3		P	30 - 160
Diuron	61.2		P	30 - 160
Fenuron	92.7		P	30 - 160
Fluridone	83.1		P	30 - 160
Hydrocodone	106		P	30 - 160
Ibuprofen	93.2		P	30 - 160
Imazapyr	93.5		P	30 - 160
Imidacloprid	109		P	30 - 160
Linuron	73.5		P	30 - 160
Mandestrobin	88.7		P	30 - 160
MCPPP	110		P	30 - 160
Naproxen	62.6		P	30 - 160
Primidone	112		P	30 - 160
Pyraclostrobin	85.1		P	30 - 160
Thiamethoxam	106		P	30 - 160
Tolfenpyrad	53.2		P	30 - 160
Triclopyr	90.8		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P392242

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	61.4		P	40 - 150
AMPA	79.1		P	40 - 150
Endothall	91.3		P	40 - 150
Glufosinate	92.3		P	40 - 150
Glyphosate	110		P	40 - 140
Sucralose	98.4		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P392144

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2216796	2,4-D	93.1	92.3	P/P	30 - 160
2216796	Acetaminophen	75.3	85.8	P/P	30 - 160
2216796	Acetamiprid	77.2	78.5	P/P	30 - 160
2216796	Afidopyropen	64.3	64.8	P/P	30 - 160
2216796	Benzovindiflupyr	64.3	62.2	P/P	30 - 160
2216796	Carbamazepine	51.6	49.0	P/P	30 - 160
2216796	Clothianidin	88.5	79.5	P/P	30 - 160
2216796	Dinotefuran	94.4	85.3	P/P	30 - 160
2216796	Diuron	42.6	39.3	P/P	30 - 160
2216796	Fenuron	60.0	63.4	P/P	30 - 160
2216796	Fluridone	61.1	48.8	P/P	30 - 160
2216796	Hydrocodone	95.9	91.1	P/P	30 - 160
2216796	Ibuprofen	64.1	71.1	P/P	30 - 160
2216796	Imidacloprid	111	114	P/P	30 - 160
2216796	Linuron	52.4	50.3	P/P	30 - 160
2216796	Mandestrobin	69.4	65.0	P/P	30 - 160
2216796	MCCP	78.3	78.8	P/P	30 - 160
2216796	Naproxen	66.1	79.6	P/P	30 - 160
2216796	Primidone	99.4	74.8	P/P	30 - 160
2216796	Pyraclostrobin	72.2	72.4	P/P	30 - 160
2216796	Thiamethoxam	93.4	104	P/P	30 - 160
2216796	Tolfenpyrad	52.7	52.4	P/P	30 - 160
2216796	Triclopyr	72.2	79.9	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P392242

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2217556	Acesulfame K	58.6	58.4	P/P	40 - 150
2217556	AMPA	93.5	86.3	P/P	40 - 150
2217556	Endothall	96.9	93.0	P/P	40 - 150
2217556	Glufosinate	101	98.6	P/P	40 - 150
2217556	Glyphosate	94.7	97.3	P/P	40 - 140
2217556	Sucralose	103	104	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P392144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2216796	2,4-D	0.714	Spike	P	0 - 30
2216796	Acetaminophen	7.39	Spike	P	0 - 30
2216796	Acetamiprid	1.72	Spike	P	0 - 30
2216796	Afidopyropen	0.897	Spike	P	0 - 30
2216796	Bentazon	3.71	Spike	P	0 - 30
2216796	Benzovindiflupyr	3.33	Spike	P	0 - 30
2216796	Carbamazepine	5.20	Spike	P	0 - 30
2216796	Clothianidin	10.7	Spike	P	0 - 30
2216796	Dinotefuran	10.1	Spike	P	0 - 30
2216796	Diuron	7.45	Spike	P	0 - 30
2216796	Fenuron	5.56	Spike	P	0 - 30
2216796	Fluridone	18.9	Spike	P	0 - 30
2216796	Hydrocodone	5.14	Spike	P	0 - 30
2216796	Ibuprofen	10.3	Spike	P	0 - 30
2216796	Imazapyr	11.4	Spike	P	0 - 30
2216796	Imidacloprid	2.92	Spike	P	0 - 30
2216796	Linuron	4.07	Spike	P	0 - 30
2216796	Mandestrobin	6.57	Spike	P	0 - 30
2216796	MCPP	0.582	Spike	P	0 - 30
2216796	Naproxen	18.6	Spike	P	0 - 30
2216796	Primidone	28.2	Spike	P	0 - 30
2216796	Pyraclostrobin	0.305	Spike	P	0 - 30
2216796	Thiamethoxam	11.1	Spike	P	0 - 30
2216796	Tolfenpyrad	0.595	Spike	P	0 - 30
2216796	Triclopyr	10.1	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P392242

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2217556	Acesulfame K	0.346	Spike	P	0 - 30
2217556	AMPA	8.09	Spike	P	0 - 30
2217556	Endothall	4.06	Spike	P	0 - 30
2217556	Glufosinate	2.87	Spike	P	0 - 30
2217556	Glyphosate	2.70	Spike	P	0 - 30
2217556	Sucralose	1.28	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2217794

Field Sample ID: G3NW0453

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	94.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	68.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	60.3	P	30 - 160
EPA 8321B	Diuron-d6	61.8	P	30 - 160
EPA 8321B	Endothall-d6	91.3	P	40 - 160
EPA 8321B	Endothall-d6	91.3	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	94.7	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	94.7	P	40 - 160
EPA 8321B	Ibuprofen-d3	44.9	P	30 - 160
EPA 8321B	Primidone-d5	80.9	P	30 - 160
EPA 8321B	Sucralose-d6	96.4	P	30 - 160
EPA 8321B	Sucralose-d6	96.4	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A103028
 Included Lab Sample IDs: 2217794

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	69.3	65.7	P/P	60 - 160
AMPA	85.7	84.7	P/P	60 - 160
Endothall	92.1	95.2	P/P	60 - 160
Glufosinate	102	99.2	P/P	60 - 160
Glyphosate	149	150	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A103029
 Included Lab Sample IDs: 2217794

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	94.5	91.6	P/P	50 - 150
Acetaminophen	107	106	P/P	60 - 160
Acetamiprid	114	97.3	P/P	50 - 150
Afidopyropen	105	109	P/P	50 - 150
Bentazon	94.3	92.4	P/P	50 - 160
Benzovindiflupyr	112	113	P/P	50 - 160
Carbamazepine	106	111	P/P	60 - 150
Clothianidin	107	97.3	P/P	60 - 150
Dinotefuran	108	110	P/P	50 - 150
Diuron	117	113	P/P	60 - 160
Fenuron	108	83.3	P/P	60 - 150
Fluridone	120	119	P/P	60 - 160
Hydrocodone	97.8	130	P/P	60 - 150
Ibuprofen	116	107	P/P	50 - 160
Imazapyr	88.1	90.7	P/P	50 - 160
Imidacloprid	101	112	P/P	60 - 150
Linuron	98.7	98.7	P/P	60 - 150
Mandestrobin	112	106	P/P	50 - 150
MCPP	94.0	98.0	P/P	50 - 150
Naproxen	108	109	P/P	50 - 160
Primidone	109	111	P/P	60 - 150
Pyraclostrobin	107	107	P/P	60 - 150
Thiamethoxam	109	107	P/P	50 - 150
Tolfenpyrad	104	102	P/P	60 - 150
Triclopyr	96.0	99.0	P/P	50 - 150

Reference Method: EPA 8321B
 Run ID: A103189
 Included Lab Sample IDs: 2217794

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	87.3	84.6	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	118	93.1	92.3		0.714
	Acesulfame K	61.4	58.6	58.4		0.346
	Acetaminophen	74.6	75.3	85.8		7.39
	Acetamiprid	92.6	77.2	78.5		1.72
	Afidopyropen	80.5	64.3	64.8		0.897
	AMPA	79.1	93.5	86.3		8.09
	Bentazon	87.0				3.71
	Benzovindiflupyr	78.4	64.3	62.2		3.33
	Carbamazepine	77.8	51.6	49.0		5.20
	Clothianidin	98.7	88.5	79.5		10.7
	Dinotefuran	87.3	94.4	85.3		10.1
	Diuron	61.2	42.6	39.3		7.45
	Endothall	91.3	96.9	93.0		4.06
	Fenuron	92.7	60.0	63.4		5.56
	Fluridone	83.1	61.1	48.8		18.9
	Glufosinate	92.3	101	98.6		2.87
	Glyphosate	110	94.7	97.3		2.70
	Hydrocodone	106	95.9	91.1		5.14
	Ibuprofen	93.2	64.1	71.1		10.3
	Imazapyr	93.5				11.4
	Imidacloprid	109	111	114		2.92
	Linuron	73.5	52.4	50.3		4.07
	Mandestrobin	88.7	69.4	65.0		6.57
	MCPP	110	78.3	78.8		0.582
	Naproxen	62.6	66.1	79.6		18.6
	Primidone	112	99.4	74.8		28.2
	Pyraclostrobin	85.1	72.2	72.4		0.305
	Sucralose	98.4	103	104		1.28
	Thiamethoxam	106	93.4	104		11.1
	Tolfenpyrad	53.2	52.7	52.4		0.595
	Triclopyr	90.8	72.2	79.9		10.1

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2217794
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2217794

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	01/08/2021	01/11/2021 09:00	Hoor Shaik	01/13/2021 07:26	Juyoung Kim	2217794
	01/08/2021	01/12/2021 11:00	Rebecca Ware	01/12/2021 14:33	Rebecca Ware	2217794
	01/08/2021	01/12/2021 11:00	Rebecca Ware	01/20/2021 22:27	Rebecca Ware	2217794