

Chemical Analysis Report

NW-DIST-2020-09-02-01

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

Event Description: **Eglin Run East**
Request ID: **RQ-2020-08-24-18**
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

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
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Phone (850) 245-8085

Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 16-SEP-2020 10:15



NON-CONFORMANCE REPORT INCLUDED

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: Shaw Still Branch Upstream E College Blvd.

Collection Date/Time: 08/31/2020 10:51

Field ID: G3NW0162

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2193527	EPA 8321B	2,4-D	0.0020	UY	ug/L	P386810	
		Acesulfame K**	0.10	UY	ug/L	P386879	MS
		AMPA**	0.10	UY	ug/L	P386879	
		Sucralose**	1.9	Y	ug/L	P386879	MS
		Acetaminophen**	0.0080	UY	ug/L	P386810	
		Acetamiprid**	0.0020	UY	ug/L	P386810	
		Endothall**	0.25	UY	ug/L	P386879	
		Glufosinate**	0.10	UY	ug/L	P386879	MS
		Glyphosate**	0.10	UY	ug/L	P386879	MS
		Afidopyropen**	0.0020	UY	ug/L	P386810	
		Bentazon	8.0E-04	UY	ug/L	P386810	
		Benzovindiflupyr**	0.0020	UY	ug/L	P386810	
		Carbamazepine**	9.1E-04	IY	ug/L	P386810	
		Clothianidin**	0.0020	UY	ug/L	P386810	
		Dinotefuran**	0.0044	IY	ug/L	P386810	
		Diuron	0.0020	UY	ug/L	P386810	
		Fenuron	0.33	Y	ug/L	P386810	
		Fluridone**	8.0E-04	UY	ug/L	P386810	
		Imazapyr**	0.0040	UY	ug/L	P386810	
		Hydrocodone**	0.0020	UY	ug/L	P386810	
		Ibuprofen**	0.020	UY	ug/L	P386810	
		Imidacloprid	0.0020	UY	ug/L	P386810	
		Linuron	0.0040	UY	ug/L	P386810	
		Mandestrobin**	0.0020	UY	ug/L	P386810	
		MCPP	0.0020	UY	ug/L	P386810	
		Naproxen**	0.0080	UY	ug/L	P386810	
		Primidone**	0.0048	IY	ug/L	P386810	
		Pyraclostrobin**	0.0020	UY	ug/L	P386810	
		Thiamethoxam**	0.0020	UY	ug/L	P386810	
		Tolfenpyrad**	0.0020	UY	ug/L	P386810	
		Triclopyr**	0.0040	UY	ug/L	P386810	

Ref. Method and Comment:

EPA 8321B: MS accuracy for imazapyr could not be assessed due to high concentration of parameter in the spiked sample. Y - Sample was received with inadequate sample preservation; see NCR report.

EPA 8321B: Y - Sample was received with inadequate sample preservation; see NCR report.

Non-Conformance Report

NCR ID: 8407

Event(s)

NW-DIST-2020-09-02-01

Job(s)

TLH-2020-09-02-17

Sample(s)

2193527

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Preservation Not Intact

Observation: Sample received outside the acceptable temperature range.

Resolution: Data will be qualified as appropriate.

Authorized by/Date: Joshua Ayres 9/8/2020

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P386810

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: P386879

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: P386810

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	89.1		P	30 - 160
Acetaminophen	92.7		P	30 - 160
Acetamiprid	75.6		P	30 - 160
Afidopyropen	56.9		P	30 - 160
Bentazon	75.0		P	30 - 160
Benzovindiflupyr	71.8		P	30 - 160
Carbamazepine	64.1		P	30 - 160
Clothianidin	89.3		P	30 - 160
Dinotefuran	100		P	30 - 160
Diuron	66.9		P	30 - 160
Fenuron	105		P	30 - 160
Fluridone	77.3		P	30 - 160
Hydrocodone	93.4		P	30 - 160
Ibuprofen	77.7		P	30 - 160
Imazapyr	80.5		P	30 - 160
Imidacloprid	105		P	30 - 160
Linuron	75.9		P	30 - 160
Mandestrobin	77.5		P	30 - 160
MCPP	101		P	30 - 160
Naproxen	47.6		P	30 - 160
Primidone	87.0		P	30 - 160
Pyraclostrobin	57.6		P	30 - 160
Thiamethoxam	90.6		P	30 - 160
Tolfenpyrad	44.7		P	30 - 160
Triclopyr	63.1		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P386879

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	72.7		P	40 - 150
AMPA	84.7		P	40 - 150
Endothall	107		P	40 - 150
Glufosinate	100		P	40 - 150
Glyphosate	108		P	40 - 140
Sucralose	104		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P386810

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2193354	2,4-D	91.3	88.1	P/P	30 - 160
2193354	Acetaminophen	77.5	81.7	P/P	30 - 160
2193354	Acetamiprid	67.1	68.2	P/P	30 - 160
2193354	Afidopyropen	53.5	53.1	P/P	30 - 160
2193354	Bentazon	39.6	46.3	P/P	30 - 160
2193354	Benzovindiflupyr	64.8	63.2	P/P	30 - 160
2193354	Carbamazepine	53.9	56.6	P/P	30 - 160
2193354	Clothianidin	59.9	61.4	P/P	30 - 160
2193354	Dinotefuran	78.8	83.2	P/P	30 - 160
2193354	Diuron	54.1	52.8	P/P	30 - 160
2193354	Fenuron	68.2	72.4	P/P	30 - 160
2193354	Fluridone	75.4	94.7	P/P	30 - 160
2193354	Hydrocodone	64.7	70.3	P/P	30 - 160
2193354	Ibuprofen	83.5	71.2	P/P	30 - 160
2193354	Imidacloprid	109	118	P/P	30 - 160
2193354	Linuron	67.1	68.9	P/P	30 - 160
2193354	Mandestrobin	70.5	75.6	P/P	30 - 160
2193354	MCPP	111	110	P/P	30 - 160
2193354	Naproxen	49.2	63.2	P/P	30 - 160
2193354	Primidone	76.8	79.3	P/P	30 - 160
2193354	Pyraclostrobin	59.1	60.2	P/P	30 - 160
2193354	Thiamethoxam	72.7	71.8	P/P	30 - 160
2193354	Tolfenpyrad	51.7	48.2	P/P	30 - 160
2193354	Triclopyr	87.5	87.4	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P386879

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2193353	Acesulfame K	29.8	29.0	F/F	40 - 150
2193353	AMPA	48.6	42.7	P/P	40 - 150
2193353	Endothall	90.2	106	P/P	40 - 150
2193353	Glufosinate	182	152	F/F	40 - 150
2193353	Glyphosate	510	446	F/F	40 - 140
2193353	Sucralose	22.1	19.2	F/F	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P386810

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2193354	2,4-D	3.11	Spike	P	0 - 30
2193354	Acetaminophen	5.28	Spike	P	0 - 30
2193354	Acetamiprid	1.62	Spike	P	0 - 30
2193354	Afidopyropen	0.775	Spike	P	0 - 30
2193354	Bentazon	4.84	Spike	P	0 - 30
2193354	Benzovindiflupyr	2.40	Spike	P	0 - 30
2193354	Carbamazepine	4.85	Spike	P	0 - 30
2193354	Clothianidin	2.53	Spike	P	0 - 30
2193354	Dinotefuran	4.79	Spike	P	0 - 30
2193354	Diuron	2.22	Spike	P	0 - 30
2193354	Fenuron	5.91	Spike	P	0 - 30
2193354	Fluridone	17.2	Spike	P	0 - 30
2193354	Hydrocodone	8.37	Spike	P	0 - 30
2193354	Ibuprofen	15.8	Spike	P	0 - 30
2193354	Imazapyr	7.74	Spike	P	0 - 30
2193354	Imidacloprid	6.78	Spike	P	0 - 30
2193354	Linuron	2.58	Spike	P	0 - 30
2193354	Mandestrobin	7.03	Spike	P	0 - 30
2193354	MCPP	0.860	Spike	P	0 - 30
2193354	Naproxen	24.9	Spike	P	0 - 30
2193354	Primidone	3.13	Spike	P	0 - 30
2193354	Pyraclostrobin	1.77	Spike	P	0 - 30
2193354	Thiamethoxam	1.14	Spike	P	0 - 30
2193354	Tolfenpyrad	6.96	Spike	P	0 - 30
2193354	Triclopyr	0.124	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P386879

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2193353	Acesulfame K	2.76	Spike	P	0 - 30
2193353	AMPA	5.28	Spike	P	0 - 30
2193353	Endothall	16.4	Spike	P	0 - 30
2193353	Glufosinate	17.7	Spike	P	0 - 30
2193353	Glyphosate	6.17	Spike	P	0 - 30
2193353	Sucralose	8.16	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2193527

Field Sample ID: G3NW0162

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	88.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	83.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	60.6	P	30 - 160
EPA 8321B	Diuron-d6	67.1	P	30 - 160
EPA 8321B	Endothall-d6	114	P	30 - 160
EPA 8321B	Endothall-d6	114	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	97.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	97.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	78.2	P	30 - 160
EPA 8321B	Primidone-d5	94.2	P	30 - 160
EPA 8321B	Sucralose-d6	57.1	P	30 - 160
EPA 8321B	Sucralose-d6	57.1	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A100781
 Included Lab Sample IDs: 2193527

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	109	104	P/P	50 - 150
Acetaminophen	142	128	P/P	60 - 160
Acetamiprid	142	138	P/P	50 - 150
Afidopyropen	123	109	P/P	50 - 150
Bentazon	125	151	P/P	50 - 160
Benzovindiflupyr	116	133	P/P	50 - 150
Carbamazepine	135	131	P/P	60 - 150
Clothianidin	134	114	P/P	60 - 150
Dinotefuran	124	112	P/P	50 - 150
Diuron	137	142	P/P	60 - 160
Fenuron	127	128	P/P	60 - 150
Fluridone	110	118	P/P	60 - 160
Hydrocodone	132	121	P/P	60 - 150
Ibuprofen	103	63.9	P/P	50 - 160
Imazapyr	102	119	P/P	50 - 160
Imidacloprid	138	106	P/P	60 - 150
Linuron	131	138	P/P	60 - 150
Mandestrobin	128	137	P/P	50 - 150
MCPP	123	112	P/P	50 - 150
Naproxen	80.8	112	P/P	50 - 160
Primidone	135	117	P/P	60 - 150
Pyraclostrobin	117	106	P/P	60 - 150
Thiamethoxam	137	123	P/P	50 - 150
Tolfenpyrad	117	105	P/P	60 - 150
Triclopyr	111	111	P/P	50 - 150

Reference Method: EPA 8321B
 Run ID: A100901
 Included Lab Sample IDs: 2193527

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	65.6	62.4	P/P	60 - 160
Endothall	118	122	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A100903
 Included Lab Sample IDs: 2193527

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	81.3	82.6	P/P	60 - 160
Glufosinate	97.2	92.1	P/P	60 - 160
Glyphosate	110	112	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A100956
 Included Lab Sample IDs: 2193527

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	105	106	P/P	60 - 160

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	89.1	88.1	91.3		3.11
	Acesulfame K	72.7	29.8	29.0		2.76
	Acetaminophen	92.7	77.5	81.7		5.28
	Acetamiprid	75.6	67.1	68.2		1.62
	Afidopyropen	56.9	53.5	53.1		0.775
	AMPA	84.7	48.6	42.7		5.28
	Bentazon	75.0	46.3	39.6		4.84
	Benzovindiflupyr	71.8	64.8	63.2		2.40
	Carbamazepine	64.1	53.9	56.6		4.85
	Clothianidin	89.3	59.9	61.4		2.53
	Dinotefuran	100	78.8	83.2		4.79
	Diuron	66.9	54.1	52.8		2.22
	Endothall	107	90.2	106		16.4
	Fenuron	105	68.2	72.4		5.91
	Fluridone	77.3	75.4	94.7		17.2
	Glufosinate	100	182	152		17.7
	Glyphosate	108	510	446		6.17
	Hydrocodone	93.4	64.7	70.3		8.37
	Ibuprofen	77.7	71.2	83.5		15.8
	Imazapyr	80.5				7.74
	Imidacloprid	105	109	118		6.78
	Linuron	75.9	67.1	68.9		2.58
	Mandestrobin	77.5	70.5	75.6		7.03
	MCPP	101	110	111		0.860
	Naproxen	47.6	63.2	49.2		24.9
	Primidone	87.0	76.8	79.3		3.13
	Pyraclostrobin	57.6	60.2	59.1		1.77
	Sucralose	104	22.1	19.2		8.16
	Thiamethoxam	90.6	72.7	71.8		1.14
	Tolfenpyrad	44.7	48.2	51.7		6.96
	Triclopyr	63.1	87.4	87.5		0.124

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2193527
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2193527

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	09/02/2020	09/02/2020 14:30	Hoor Shaik	09/03/2020 06:16	Mohammad Ghaffari	2193527
	09/02/2020	09/03/2020 10:00	Rebecca Ware	09/03/2020 13:24	Rebecca Ware	2193527
	09/02/2020	09/03/2020 10:00	Rebecca Ware	09/04/2020 14:44	Rebecca Ware	2193527
	09/02/2020	09/03/2020 10:00	Rebecca Ware	09/10/2020 14:26	Rebecca Ware	2193527