

Chemical Analysis Report

NE-DIST-2021-01-29-02

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

Event Description: **Suwannee North 2021**

Request ID: **RQ-2021-01-25-11**

Customer: **NE-DIST**

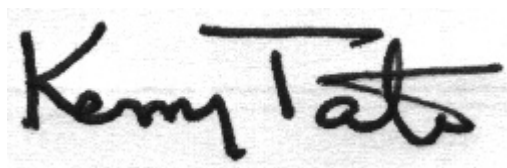
Project ID: **SMP**

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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 12-FEB-2021 10:24

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 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: Rocky Creek at CR136

Collection Date/Time: 01/28/2021 12:45

Field ID: 21010016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2222507	EPA 8321B	2,4-D	0.0020	U	ug/L	P393145	
		Acesulfame K	0.10	U	ug/L	P393178	MS
		AMPA	0.10	U	ug/L	P393178	
		Sucralose	0.029	I	ug/L	P393178	
		Acetaminophen**	0.0080	U	ug/L	P393145	
		Acetamiprid**	0.0020	U	ug/L	P393145	
		Endothall	0.25	U	ug/L	P393178	
		Glufosinate	0.10	U	ug/L	P393178	
		Glyphosate	0.10	U	ug/L	P393178	
		Afidopyropen**	0.0020	U	ug/L	P393145	
		Bentazon	8.0E-04	U	ug/L	P393145	
		Benzovindiflupyr**	0.0020	U	ug/L	P393145	
		Carbamazepine**	8.0E-04	U	ug/L	P393145	
		Clothianidin**	0.0020	U	ug/L	P393145	
		Dinotefuran**	0.0020	U	ug/L	P393145	
		Diuron	0.011		ug/L	P393145	
		Fenuron	0.016	U	ug/L	P393145	
		Fluridone**	8.0E-04	U	ug/L	P393145	
		Imazapyr**	0.0096	I	ug/L	P393145	
		Hydrocodone**	0.0020	U	ug/L	P393145	
		Ibuprofen**	0.020	U	ug/L	P393145	
		Imidacloprid	0.0020	U	ug/L	P393145	
		Linuron	0.0040	U	ug/L	P393145	
		Mandestrobin**	0.0020	U	ug/L	P393145	
		MCPP	0.0020	U	ug/L	P393145	
		Naproxen**	0.0080	U	ug/L	P393145	
		Primidone**	0.0040	U	ug/L	P393145	
		Pyraclostrobin**	0.0020	U	ug/L	P393145	
		Thiamethoxam**	0.0020	U	ug/L	P393145	
		Tolfenpyrad**	0.0020	U	ug/L	P393145	
		Triclopyr**	0.0040	U	ug/L	P393145	

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: P393145

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: P393178

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: P393145

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	103		P	30 - 160
Acetaminophen	83.5		P	30 - 160
Acetamiprid	85.3		P	30 - 160
Afidopyropen	52.7		P	30 - 160
Bentazon	85.8		P	30 - 160
Benzovindiflupyr	74.7		P	30 - 160
Carbamazepine	101		P	30 - 160
Clothianidin	96.8		P	30 - 160
Dinotefuran	71.4		P	30 - 160
Diuron	80.0		P	30 - 160
Fenuron	100		P	30 - 160
Fluridone	82.3		P	30 - 160
Hydrocodone	94.4		P	30 - 160
Ibuprofen	59.0		P	30 - 160
Imazapyr	104		P	30 - 160
Imidacloprid	93.3		P	30 - 160
Linuron	79.0		P	30 - 160
Mandestrobin	86.6		P	30 - 160
MCPPP	90.3		P	30 - 160
Naproxen	56.8		P	30 - 160
Primidone	87.3		P	30 - 160
Pyraclostrobin	75.8		P	30 - 160
Thiamethoxam	93.5		P	30 - 160
Tolfenpyrad	44.3		P	30 - 160
Triclopyr	84.3		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P393178

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	107		P	40 - 150
AMPA	99.5		P	40 - 150
Endothall	115		P	40 - 150
Glufosinate	99.8		P	40 - 150
Glyphosate	95.4		P	40 - 140
Sucralose	110		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P393145

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2222298	Acetaminophen	105	106	P/P	30 - 160
2222298	Acetamiprid	103	104	P/P	30 - 160
2222298	Afidopyropen	77.0	73.5	P/P	30 - 160
2222298	Benzovindiflupyr	69.8	73.2	P/P	30 - 160
2222298	Carbamazepine	86.8	82.4	P/P	30 - 160
2222298	Clothianidin	91.1	106	P/P	30 - 160
2222298	Dinotefuran	98.9	99.3	P/P	30 - 160
2222298	Diuron	66.3	56.9	P/P	30 - 160
2222298	Fenuron	81.5	83.2	P/P	30 - 160
2222298	Fluridone	82.1	59.6	P/P	30 - 160
2222298	Hydrocodone	106	109	P/P	30 - 160
2222298	Ibuprofen	79.6	76.5	P/P	30 - 160
2222298	Imazapyr	102	80.1	P/P	30 - 160
2222298	Imidacloprid	133	138	P/P	30 - 160
2222298	Linuron	70.5	66.1	P/P	30 - 160
2222298	Mandestrobin	82.3	80.6	P/P	30 - 160
2222298	MCPP	84.2	80.5	P/P	30 - 160
2222298	Naproxen	78.6	85.0	P/P	30 - 160
2222298	Primidone	90.4	90.2	P/P	30 - 160
2222298	Pyraclostrobin	72.6	74.6	P/P	30 - 160
2222298	Thiamethoxam	124	128	P/P	30 - 160
2222298	Tolfenpyrad	46.7	52.7	P/P	30 - 160
2222298	Triclopyr	69.7	76.2	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P393178

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2222323	Acesulfame K	24.8	25.5	F/F	40 - 150
2222323	AMPA	124	123	P/P	40 - 150
2222323	Endothall	114	122	P/P	40 - 150
2222323	Glufosinate	95.5	92.7	P/P	40 - 150
2222323	Glyphosate	80.0	77.0	P/P	40 - 140
2222323	Sucralose	115	115	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P393145

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2222298	2,4-D	4.73	Spike	P	0 - 30
2222298	Acetaminophen	1.21	Spike	P	0 - 30
2222298	Acetamiprid	0.744	Spike	P	0 - 30
2222298	Afidopyropen	4.72	Spike	P	0 - 30
2222298	Bentazon	2.76	Spike	P	0 - 30
2222298	Benzovindiflupyr	4.81	Spike	P	0 - 30
2222298	Carbamazepine	4.66	Spike	P	0 - 30
2222298	Clothianidin	15.5	Spike	P	0 - 30
2222298	Dinotefuran	0.363	Spike	P	0 - 30
2222298	Diuron	10.3	Spike	P	0 - 30
2222298	Fenuron	2.09	Spike	P	0 - 30
2222298	Fluridone	25.2	Spike	P	0 - 30
2222298	Hydrocodone	2.54	Spike	P	0 - 30
2222298	Ibuprofen	3.86	Spike	P	0 - 30
2222298	Imazapyr	11.4	Spike	P	0 - 30
2222298	Imidacloprid	3.43	Spike	P	0 - 30
2222298	Linuron	6.49	Spike	P	0 - 30
2222298	Mandestrobin	2.00	Spike	P	0 - 30
2222298	MCPP	4.53	Spike	P	0 - 30
2222298	Naproxen	7.88	Spike	P	0 - 30
2222298	Primidone	0.144	Spike	P	0 - 30
2222298	Pyraclostrobin	2.71	Spike	P	0 - 30
2222298	Thiamethoxam	2.91	Spike	P	0 - 30
2222298	Tolfenpyrad	12.1	Spike	P	0 - 30
2222298	Triclopyr	9.00	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P393178

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2222323	Acesulfame K	2.71	Spike	P	0 - 30
2222323	AMPA	1.23	Spike	P	0 - 30
2222323	Endothall	6.76	Spike	P	0 - 30
2222323	Glufosinate	3.01	Spike	P	0 - 30
2222323	Glyphosate	3.80	Spike	P	0 - 30
2222323	Sucralose	0.452	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2222507

Field Sample ID: 21010016

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	81.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	120	P	30 - 160
EPA 8321B	Carbamazepine-d10	78.7	P	30 - 160
EPA 8321B	Diuron-d6	46.4	P	30 - 160
EPA 8321B	Endothall-d6	97.8	P	40 - 160
EPA 8321B	Endothall-d6	97.8	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	86.1	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	86.1	P	40 - 160
EPA 8321B	Ibuprofen-d3	101	P	30 - 160
EPA 8321B	Primidone-d5	71.8	P	30 - 160
EPA 8321B	Sucralose-d6	119	P	30 - 160
EPA 8321B	Sucralose-d6	119	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A103373
Included Lab Sample IDs: 2222507

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	86.5	97.8	P/P	60 - 160
AMPA	108	112	P/P	60 - 160
Endothall	103	110	P/P	60 - 160
Glufosinate	85.6	78.9	P/P	60 - 160
Glyphosate	106	100	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A103413
Included Lab Sample IDs: 2222507

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	99.4	91.1	P/P	50 - 150
Acetaminophen	99.9	121	P/P	60 - 160
Acetamiprid	116	120	P/P	50 - 150
Afidopyropen	115	113	P/P	50 - 150
Bentazon	127	122	P/P	50 - 160
Benzovindiflupyr	107	116	P/P	50 - 160
Carbamazepine	114	123	P/P	60 - 150
Clothianidin	84.1	103	P/P	60 - 150
Dinotefuran	98.8	117	P/P	50 - 150
Diuron	132	155	P/P	60 - 160
Fenuron	108	128	P/P	60 - 150
Fluridone	127	147	P/P	60 - 160
Hydrocodone	105	119	P/P	60 - 150
Ibuprofen	75.7	84.7	P/P	50 - 160
Imazapyr	97.1	104	P/P	50 - 160
Imidacloprid	95.8	111	P/P	60 - 150
Linuron	121	130	P/P	60 - 150
Mandestrobin	112	125	P/P	50 - 150
MCPP	110	105	P/P	50 - 150
Naproxen	131	98.2	P/P	50 - 160
Primidone	98.4	102	P/P	60 - 150
Pyraclostrobin	107	138	P/P	60 - 150
Thiamethoxam	106	114	P/P	50 - 150
Tolfenpyrad	106	127	P/P	60 - 150
Triclopyr	107	116	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A103516
Included Lab Sample IDs: 2222507

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	106	109	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	103				4.73
	Acesulfame K	107	24.8	25.5		2.71
	Acetaminophen	83.5	105	106		1.21
	Acetamiprid	85.3	103	104		0.744
	Afidopyropen	52.7	77.0	73.5		4.72
	AMPA	99.5	124	123		1.23
	Bentazon	85.8				2.76
	Benzovindiflupyr	74.7	69.8	73.2		4.81
	Carbamazepine	101	86.8	82.4		4.66
	Clothianidin	96.8	91.1	106		15.5
	Dinotefuran	71.4	98.9	99.3		0.363
	Diuron	80.0	66.3	56.9		10.3
	Endothall	115	114	122		6.76
	Fenuron	100	81.5	83.2		2.09
	Fluridone	82.3	82.1	59.6		25.2
	Glufosinate	99.8	95.5	92.7		3.01
	Glyphosate	95.4	80.0	77.0		3.80
	Hydrocodone	94.4	106	109		2.54
	Ibuprofen	59.0	79.6	76.5		3.86
	Imazapyr	104	102	80.1		11.4
	Imidacloprid	93.3	133	138		3.43
	Linuron	79.0	70.5	66.1		6.49
	Mandestrobin	86.6	82.3	80.6		2.00
	MCPP	90.3	84.2	80.5		4.53
	Naproxen	56.8	78.6	85.0		7.88
	Primidone	87.3	90.4	90.2		0.144
	Pyraclostrobin	75.8	72.6	74.6		2.71
	Sucralose	110	115	115		0.452
	Thiamethoxam	93.5	124	128		2.91
	Tolfenpyrad	44.3	46.7	52.7		12.1
	Triclopyr	84.3	69.7	76.2		9.00

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2222507
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2222507

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	01/29/2021	02/01/2021 11:30	Rebecca Ware	02/02/2021 11:56	Rebecca Ware	2222507
	01/29/2021	02/01/2021 11:30	Rebecca Ware	02/10/2021 00:09	Rebecca Ware	2222507
	01/29/2021	02/02/2021 14:00	Hoor Shaik	02/03/2021 09:03	Juyoung Kim	2222507