

Chemical Analysis Report

NE-DIST-2023-11-16-02

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Suwannee North 2023**
Request ID: **RQ-2023-11-20-06**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
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Certified by: Chris Bowen, Environmental Administrator

Date Certified: 04-DEC-2023 10:34



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: HUNTERS CREEK AT SR 135

Collection Date/Time: 11/15/2023 11:50

Field ID: 21020063

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2451986	EPA 8321B	2,4-D	0.0020	U	ug/L	P437880	
		Acesulfame K	0.10	U	ug/L	P437799	
		2,4,5-T	0.0040	U	ug/L	P437880	
		AMPA	0.10	U	ug/L	P437799	
		Acetaminophen	0.0080	U	ug/L	P437880	
		Acetamiprid	0.0020	U	ug/L	P437880	
		Endothall	0.25	U	ug/L	P437799	
		Glufosinate	0.10	U	ug/L	P437799	
		Glyphosate	0.10	U	ug/L	P437799	
		Afidopyropen	0.0020	U	ug/L	P437880	
		Sucralose	0.010	U	ug/L	P437799	
		Bentazon	8.0E-04	U	ug/L	P437880	MS
		Benzovindiflupyr	0.0020	U	ug/L	P437880	
		Carbamazepine	8.0E-04	U	ug/L	P437880	
		Clothianidin	0.0020	U	ug/L	P437880	
		Dinotefuran	0.0020	U	ug/L	P437880	
		Diuron	0.0020	U	ug/L	P437880	
		Fenuron	0.032	U	ug/L	P437880	
		Fluridone	8.0E-04	U	ug/L	P437880	
		Imazapyr	0.0042	I	ug/L	P437880	
		Hydrocodone	0.0020	U	ug/L	P437880	
		Ibuprofen	0.080	U	ug/L	P437880	
		Imidacloprid	0.0020	U	ug/L	P437880	
		Linuron	0.0040	U	ug/L	P437880	
		Mandestrobin	0.0020	U	ug/L	P437880	
		MCPP	0.0020	U	ug/L	P437880	
		Naproxen	0.0080	U	ug/L	P437880	
		Primidone	0.0040	U	ug/L	P437880	
		Pyraclostrobin	0.0020	U	ug/L	P437880	
		Silvex	0.0040	U	ug/L	P437880	
		Thiamethoxam	0.0020	U	ug/L	P437880	
		Tolfenpyrad	0.0020	U	ug/L	P437880	
		Triclopyr	0.0040	U	ug/L	P437880	

Ref. Method and Comment:

EPA 8321B: The matrix spike and LCS recoveries for afidopyropen could not be evaluated due to laboratory technical difficulties.

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P437799

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: P437880

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	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	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	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
Silvex	0.0040	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: P437799

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	109		P	40 - 150
AMPA	104		P	40 - 160
Endothall	108		P	40 - 160
Glufosinate	100		P	40 - 160
Glyphosate	101		P	40 - 160
Sucralose	99.0		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P437880

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	105		P	40 - 150
2,4,5-T	91.0		P	40 - 150
Acetaminophen	95.2		P	30 - 150
Acetamiprid	95.8		P	40 - 150
Bentazon	66.4		P	30 - 150
Benzovindiflupyr	92.8		P	40 - 150
Carbamazepine	76.6		P	40 - 150
Clothianidin	97.7		P	40 - 150
Dinotefuran	99.6		P	40 - 150
Diuron	70.8		P	40 - 150
Fenuron	93.2		P	40 - 150
Fluridone	88.6		P	40 - 150
Hydrocodone	112		P	40 - 150
Ibuprofen	65.0		P	40 - 150
Imazapyr	91.6		P	40 - 150
Imidacloprid	94.8		P	40 - 150
Linuron	76.6		P	40 - 150
Mandestrobin	101		P	40 - 150
MCPP	96.4		P	40 - 150
Naproxen	60.7		P	40 - 150
Primidone	92.3		P	40 - 150
Pyraclostrobin	93.9		P	40 - 150
Silvex	87.1		P	40 - 150
Thiamethoxam	93.1		P	40 - 150
Tolfenpyrad	62.6		P	30 - 150
Triclopyr	105		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P437799

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451421	Acesulfame K	121	124	P/P	40 - 150
2451421	AMPA	97.9	97.4	P/P	40 - 160
2451421	Endothall	108	102	P/P	40 - 160
2451421	Glufosinate	98.7	99.3	P/P	40 - 160
2451421	Glyphosate	101	93.1	P/P	40 - 160
2451421	Sucralose	94.0	95.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P437880

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451421	2,4-D	89.5	103	P/P	40 - 150
2451421	2,4,5-T	84.6	89.0	P/P	40 - 150
2451421	Acetaminophen	108	106	P/P	30 - 150
2451421	Acetamiprid	44.1	41.6	P/P	40 - 150
2451421	Bentazon	23.3	24.0	F/F	30 - 150
2451421	Benzovindiflupyr	79.4	84.4	P/P	40 - 150
2451421	Carbamazepine	56.7	58.3	P/P	40 - 150
2451421	Clothianidin	76.0	81.0	P/P	40 - 150
2451421	Dinotefuran	67.7	70.7	P/P	40 - 150
2451421	Diuron	54.3	56.2	P/P	40 - 150
2451421	Fenuron	50.7	52.3	P/P	40 - 150
2451421	Fluridone	65.6	70.7	P/P	40 - 150
2451421	Hydrocodone	73.0	78.8	P/P	40 - 150
2451421	Ibuprofen	53.8	54.7	P/P	40 - 150
2451421	Imazapyr	87.4	90.6	P/P	40 - 150
2451421	Imidacloprid	101	106	P/P	40 - 150
2451421	Linuron	63.1	62.4	P/P	40 - 150
2451421	Mandestrobin	83.0	84.7	P/P	40 - 150
2451421	MCP	83.5	90.4	P/P	40 - 150
2451421	Naproxen	79.7	70.7	P/P	40 - 150
2451421	Primidone	76.2	73.7	P/P	40 - 150
2451421	Pyraclostrobin	84.6	90.3	P/P	40 - 150
2451421	Silvex	88.6	90.1	P/P	40 - 150
2451421	Thiamethoxam	77.0	82.2	P/P	40 - 150
2451421	Tolfenpyrad	52.9	54.2	P/P	30 - 150
2451421	Triclopyr	82.5	87.2	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P437799

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451421	Acesulfame K	1.98	Spike	P	0 - 30
2451421	AMPA	0.489	Spike	P	0 - 30
2451421	Endothall	5.95	Spike	P	0 - 30
2451421	Glufosinate	0.549	Spike	P	0 - 30
2451421	Glyphosate	7.98	Spike	P	0 - 30
2451421	Sucralose	1.26	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P437880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451421	2,4-D	13.8	Spike	P	0 - 30
2451421	2,4,5-T	5.15	Spike	P	0 - 30
2451421	Acetaminophen	2.31	Spike	P	0 - 30
2451421	Acetamiprid	5.73	Spike	P	0 - 30
2451421	Bentazon	2.98	Spike	P	0 - 30
2451421	Benzovindiflupyr	6.13	Spike	P	0 - 30
2451421	Carbamazepine	2.70	Spike	P	0 - 30
2451421	Clothianidin	6.39	Spike	P	0 - 30
2451421	Dinotefuran	4.43	Spike	P	0 - 30
2451421	Diuron	3.43	Spike	P	0 - 30
2451421	Fenuron	3.13	Spike	P	0 - 30
2451421	Fluridone	7.45	Spike	P	0 - 30
2451421	Hydrocodone	7.64	Spike	P	0 - 30
2451421	Ibuprofen	1.77	Spike	P	0 - 30
2451421	Imazapyr	3.10	Spike	P	0 - 30
2451421	Imidacloprid	4.86	Spike	P	0 - 30
2451421	Linuron	1.04	Spike	P	0 - 30
2451421	Mandestrobin	2.10	Spike	P	0 - 30
2451421	MCPP	7.95	Spike	P	0 - 30
2451421	Naproxen	11.9	Spike	P	0 - 30
2451421	Primidone	3.35	Spike	P	0 - 30
2451421	Pyraclostrobin	6.58	Spike	P	0 - 30
2451421	Silvex	1.73	Spike	P	0 - 30
2451421	Thiamethoxam	6.55	Spike	P	0 - 30
2451421	Tolfenpyrad	2.43	Spike	P	0 - 30
2451421	Triclopyr	5.52	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2451986
Field Sample ID: 21020063

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	88.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	65.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	50.1	P	30 - 160
EPA 8321B	Diuron-d6	46.9	P	30 - 160
EPA 8321B	Endothall-d6	100	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	61.6	P	30 - 160
EPA 8321B	Primidone-d5	51.0	P	30 - 160
EPA 8321B	Sucralose-d6	120	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A122799
Included Lab Sample IDs: 2451986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	102	97.2	P/P	60 - 160
Endothall	102	100	P/P	60 - 160
Glufosinate	87.1	97.9	P/P	60 - 160
Glyphosate	101	95.6	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A122812
Included Lab Sample IDs: 2451986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	132	131	P/P	60 - 160
Sucralose	125	118	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A122934
Included Lab Sample IDs: 2451986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	97.0	91.3	P/P	50 - 150
2,4,5-T	101	91.4	P/P	50 - 150
Acetaminophen	110	112	P/P	60 - 160
Acetamiprid	107	107	P/P	50 - 150
Afidopyropen	96.8	94.7	P/P	50 - 150
Bentazon	88.4	93.1	P/P	50 - 160
Benzovindiflupyr	107	104	P/P	50 - 150
Carbamazepine	106	107	P/P	60 - 150
Clothianidin	108	107	P/P	60 - 150
Dinotefuran	110	110	P/P	50 - 150
Diuron	110	115	P/P	60 - 160
Fenuron	105	105	P/P	60 - 150
Fluridone	107	106	P/P	60 - 160
Hydrocodone	113	115	P/P	60 - 150
Ibuprofen	92.2	94.7	P/P	50 - 160
Imazapyr	95.3	96.9	P/P	50 - 150
Imidacloprid	96.8	95.4	P/P	60 - 150
Linuron	92.1	98.3	P/P	60 - 150
Mandestrobin	110	109	P/P	50 - 150
MCPP	100	96.7	P/P	50 - 150
Naproxen	71.1	88.3	P/P	50 - 160
Primidone	102	92.8	P/P	60 - 150
Pyraclostrobin	116	108	P/P	60 - 150
Silvex	89.8	95.7	P/P	50 - 150
Thiamethoxam	108	109	P/P	50 - 150
Tolfenpyrad	99.0	101	P/P	60 - 150
Triclopyr	98.2	93.3	P/P	50 - 150

* 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		LCS	Precision	MS
						SMP	
EPA 8321B	2,4-D	105	89.5	103			13.8
	2,4,5-T	91.0	84.6	89.0			5.15
	Acesulfame K	109	121	124			1.98
	Acetaminophen	95.2	106	108			2.31
	Acetamiprid	95.8	44.1	41.6			5.73
	AMPA	104	97.9	97.4			0.489
	Bentazon	66.4	23.3	24.0			2.98
	Benzovindiflupyr	92.8	79.4	84.4			6.13
	Carbamazepine	76.6	56.7	58.3			2.70
	Clothianidin	97.7	76.0	81.0			6.39
	Dinotefuran	99.6	67.7	70.7			4.43
	Diuron	70.8	54.3	56.2			3.43
	Endothall	108	108	102			5.95
	Fenuron	93.2	50.7	52.3			3.13
	Fluridone	88.6	65.6	70.7			7.45
	Glufosinate	100	98.7	99.3			0.549
	Glyphosate	101	101	93.1			7.98
	Hydrocodone	112	73.0	78.8			7.64
	Ibuprofen	65.0	53.8	54.7			1.77
	Imazapyr	91.6	87.4	90.6			3.10
	Imidacloprid	94.8	101	106			4.86
	Linuron	76.6	63.1	62.4			1.04
	Mandestrobin	101	83.0	84.7			2.10
	MCPP	96.4	83.5	90.4			7.95
	Naproxen	60.7	79.7	70.7			11.9
	Primidone	92.3	76.2	73.7			3.35
	Pyraclostrobin	93.9	84.6	90.3			6.58
	Silvex	87.1	88.6	90.1			1.73
	Sucralose	99.0	94.0	95.6			1.26
	Thiamethoxam	93.1	77.0	82.2			6.55
	Tolfenpyrad	62.6	52.9	54.2			2.43
	Triclopyr	105	82.5	87.2			5.52

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2451986

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	11/16/2023	11/16/2023 12:00	Tae K Lee	11/16/2023 18:29	Hana Lee	2451986
	11/16/2023	11/16/2023 12:00	Tae K Lee	11/17/2023 12:04	Hana Lee	2451986
	11/16/2023	11/20/2023 09:00	Hoor Shaik	11/28/2023 21:13	Juyoung Kim	2451986