

Chemical Analysis Report

NE-DIST-2023-09-28-01

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

Event Description: **Suwannee North**
Request ID: **RQ-2023-09-18-21**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Jeremy Parrish

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Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 06-OCT-2023 11:43



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: 09/27/2023 10:05

Field ID: 21020063

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2441338	EPA 8321B	2,4-D	0.0020	U	ug/L	P435737	
		Acesulfame K	0.10	U	ug/L	P435662	
		2,4,5-T	0.0040	U	ug/L	P435737	
		AMPA	0.10	U	ug/L	P435662	
		Acetaminophen	0.0080	U	ug/L	P435737	
		Acetamiprid	0.0020	U	ug/L	P435737	
		Endothall	0.25	U	ug/L	P435662	MS
		Glufosinate	0.10	U	ug/L	P435662	
		Glyphosate	0.10	U	ug/L	P435662	
		Afidopyropen	0.0020	U	ug/L	P435737	
		Bentazon	8.0E-04	U	ug/L	P435737	
		Sucralose	0.010	U	ug/L	P435662	
		Benzovindiflupyr	0.0020	U	ug/L	P435737	
		Carbamazepine	8.0E-04	U	ug/L	P435737	
		Clothianidin	0.0020	U	ug/L	P435737	
		Dinotefuran	0.0020	U	ug/L	P435737	
		Diuron	0.0020	U	ug/L	P435737	
		Fenuron	0.032	U	ug/L	P435737	
		Fluridone	8.0E-04	U	ug/L	P435737	
		Imazapyr	0.016		ug/L	P435737	
		Hydrocodone	0.0020	U	ug/L	P435737	
		Ibuprofen	0.080	U	ug/L	P435737	
		Imidacloprid	0.0020	U	ug/L	P435737	
		Linuron	0.0040	U	ug/L	P435737	
		Mandestrobin	0.0020	U	ug/L	P435737	
		MCPP	0.0020	U	ug/L	P435737	
		Naproxen	0.0080	U	ug/L	P435737	RPD
		Primidone	0.0040	U	ug/L	P435737	
		Pyraclostrobin	0.0020	U	ug/L	P435737	
		Silvex	0.0040	U	ug/L	P435737	
		Thiamethoxam	0.0020	U	ug/L	P435737	
		Tolfenpyrad	0.0020	U	ug/L	P435737	
		Triclopyr	0.0040	U	ug/L	P435737	

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P435662

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: P435737

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: P435662

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	93.5		P	40 - 150
AMPA	94.9		P	40 - 150
Endothall	101		P	40 - 150
Glufosinate	120		P	40 - 150
Glyphosate	72.4		P	40 - 150
Sucralose	108		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P435737

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	130		P	40 - 150
2,4,5-T	114		P	40 - 150
Acetaminophen	79.1		P	30 - 150
Acetamiprid	86.9		P	40 - 150
Afidopyropen	80.2		P	30 - 150
Bentazon	76.4		P	30 - 150
Benzovindiflupyr	79.7		P	40 - 150
Carbamazepine	97.7		P	40 - 150
Clothianidin	95.0		P	40 - 150
Dinotefuran	101		P	40 - 150
Diuron	108		P	40 - 150
Fenuron	95.4		P	40 - 150
Fluridone	80.0		P	40 - 150
Hydrocodone	81.8		P	40 - 150
Ibuprofen	56.6		P	40 - 150
Imazapyr	79.5		P	40 - 150
Imidacloprid	90.1		P	40 - 150
Linuron	57.5		P	40 - 150
Mandestrobin	82.6		P	40 - 150
MCPP	111		P	40 - 150
Naproxen	73.0		P	40 - 150
Primidone	87.3		P	40 - 150
Pyraclostrobin	80.9		P	40 - 150
Silvex	90.3		P	40 - 150
Thiamethoxam	95.1		P	40 - 150
Tolfenpyrad	48.5		P	30 - 150
Triclopyr	108		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P435662

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2441047	Acesulfame K	91.3	91.7	P/P	40 - 150
2441047	AMPA	82.9	77.0	P/P	40 - 150
2441047	Endothall	176	174	F/F	40 - 150
2441047	Glufosinate	88.1	81.9	P/P	40 - 150
2441047	Glyphosate	106	99.1	P/P	40 - 150
2441047	Sucralose	111	108	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P435737

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2441446	2,4-D	93.5	90.8	P/P	40 - 150
2441446	2,4,5-T	97.1	91.6	P/P	40 - 150
2441446	Acetaminophen	63.8	65.4	P/P	30 - 150
2441446	Acetamiprid	49.6	46.5	P/P	40 - 150
2441446	Afidopyropen	66.9	70.8	P/P	30 - 150
2441446	Bentazon	35.1	36.4	P/P	30 - 150
2441446	Benzovindiflupyr	71.6	81.9	P/P	40 - 150
2441446	Carbamazepine	66.6	71.2	P/P	40 - 150
2441446	Clothianidin	51.5	52.3	P/P	40 - 150
2441446	Dinotefuran	52.3	55.4	P/P	40 - 150
2441446	Diuron	66.3	72.0	P/P	40 - 150
2441446	Fenuron	40.4	42.1	P/P	40 - 150
2441446	Fluridone	55.6	64.1	P/P	40 - 150
2441446	Hydrocodone	43.9	48.7	P/P	40 - 150
2441446	Ibuprofen	50.1	59.1	P/P	40 - 150
2441446	Imazapyr	66.9	74.4	P/P	40 - 150
2441446	Imidacloprid	78.9	80.7	P/P	40 - 150
2441446	Linuron	54.5	65.1	P/P	40 - 150
2441446	Mandestrobin	68.6	81.5	P/P	40 - 150
2441446	MCPP	101	108	P/P	40 - 150
2441446	Naproxen	46.2	83.0	P/P	40 - 150
2441446	Primidone	52.9	57.9	P/P	40 - 150
2441446	Pyraclostrobin	75.8	79.4	P/P	40 - 150
2441446	Silvex	65.8	70.4	P/P	40 - 150
2441446	Thiamethoxam	55.3	56.4	P/P	40 - 150
2441446	Tolfenpyrad	52.4	58.1	P/P	30 - 150
2441446	Triclopyr	104	98.6	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P435662

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2441047	Acesulfame K	0.408	Spike	P	0 - 30
2441047	AMPA	7.35	Spike	P	0 - 30
2441047	Endothall	1.45	Spike	P	0 - 30
2441047	Glufosinate	7.27	Spike	P	0 - 30
2441047	Glyphosate	6.36	Spike	P	0 - 30
2441047	Sucralose	2.53	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P435737

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2441446	2,4-D	2.97	Spike	P	0 - 30
2441446	2,4,5-T	5.81	Spike	P	0 - 30
2441446	Acetaminophen	2.59	Spike	P	0 - 30
2441446	Acetamiprid	6.43	Spike	P	0 - 30
2441446	Afidopyropen	5.66	Spike	P	0 - 30
2441446	Bentazon	3.78	Spike	P	0 - 30
2441446	Benzovindiflupyr	13.4	Spike	P	0 - 30
2441446	Carbamazepine	6.71	Spike	P	0 - 30
2441446	Clothianidin	1.59	Spike	P	0 - 30
2441446	Dinotefuran	5.82	Spike	P	0 - 30
2441446	Diuron	8.19	Spike	P	0 - 30
2441446	Fenuron	4.14	Spike	P	0 - 30
2441446	Fluridone	14.2	Spike	P	0 - 30
2441446	Hydrocodone	10.5	Spike	P	0 - 30
2441446	Ibuprofen	16.4	Spike	P	0 - 30
2441446	Imazapyr	10.5	Spike	P	0 - 30
2441446	Imidacloprid	2.33	Spike	P	0 - 30
2441446	Linuron	17.8	Spike	P	0 - 30
2441446	Mandestrobin	17.1	Spike	P	0 - 30
2441446	MCPP	6.72	Spike	P	0 - 30
2441446	Naproxen	56.9	Spike	F	0 - 30
2441446	Primidone	8.99	Spike	P	0 - 30
2441446	Pyraclostrobin	4.67	Spike	P	0 - 30
2441446	Silvex	6.63	Spike	P	0 - 30
2441446	Thiamethoxam	2.05	Spike	P	0 - 30
2441446	Tolfenpyrad	10.3	Spike	P	0 - 30
2441446	Triclopyr	5.21	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2441338

Field Sample ID: 21020063

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	91.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	50.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	64.9	P	30 - 160
EPA 8321B	Diuron-d6	56.5	P	30 - 160
EPA 8321B	Endothall-d6	154	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	141	P	30 - 160
EPA 8321B	Ibuprofen-d3	58.7	P	30 - 160
EPA 8321B	Primidone-d5	42.3	P	30 - 160
EPA 8321B	Sucralose-d6	122	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A121824
Included Lab Sample IDs: 2441338

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	99.8	98.8	P/P	60 - 160
Sucralose	107	106	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A121860
Included Lab Sample IDs: 2441338

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	130	131	P/P	60 - 160
Endothall	104	102	P/P	60 - 160
Glufosinate	110	101	P/P	60 - 160
Glyphosate	94.6	85.3	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A121944
Included Lab Sample IDs: 2441338

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	115	91.1	P/P	50 - 150
2,4,5-T	70.6	84.3	P/P	50 - 150
Acetaminophen	107	107	P/P	60 - 160
Acetamiprid	107	107	P/P	50 - 150
Afidopyropen	99.8	127	P/P	50 - 150
Bentazon	92.2	77.7	P/P	50 - 160
Benzovindiflupyr	96.0	90.0	P/P	50 - 150
Carbamazepine	127	127	P/P	60 - 150
Clothianidin	111	108	P/P	60 - 150
Dinotefuran	106	107	P/P	50 - 150
Diuron	156	153	P/P	60 - 160
Fenuron	107	105	P/P	60 - 150
Fluridone	114	107	P/P	60 - 160
Hydrocodone	108	106	P/P	60 - 150
Ibuprofen	91.2	84.0	P/P	50 - 160
Imazapyr	87.7	87.1	P/P	50 - 150
Imidacloprid	92.1	89.0	P/P	60 - 150
Linuron	95.2	86.5	P/P	60 - 150
Mandestrobin	101	102	P/P	50 - 150
MCPP	73.4	67.5	P/P	50 - 150
Naproxen	125	126	P/P	50 - 160
Primidone	98.1	102	P/P	60 - 150
Pyraclostrobin	95.2	97.0	P/P	60 - 150
Silvex	108	98.3	P/P	50 - 150
Thiamethoxam	109	110	P/P	50 - 150
Tolfenpyrad	83.9	91.7	P/P	60 - 150
Triclopyr	84.4	77.5	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	130	93.5	90.8			2.97
	2,4,5-T	114	97.1	91.6			5.81
	Acesulfame K	93.5	91.3	91.7			0.408
	Acetaminophen	79.1	63.8	65.4			2.59
	Acetamiprid	86.9	49.6	46.5			6.43
	Afidopyropen	80.2	66.9	70.8			5.66
	AMPA	94.9	82.9	77.0			7.35
	Bentazon	76.4	35.1	36.4			3.78
	Benzovindiflupyr	79.7	71.6	81.9			13.4
	Carbamazepine	97.7	66.6	71.2			6.71
	Clothianidin	95.0	51.5	52.3			1.59
	Dinotefuran	101	52.3	55.4			5.82
	Diuron	108	66.3	72.0			8.19
	Endothall	101	176	174			1.45
	Fenuron	95.4	40.4	42.1			4.14
	Fluridone	80.0	55.6	64.1			14.2
	Glufosinate	120	88.1	81.9			7.27
	Glyphosate	72.4	106	99.1			6.36
	Hydrocodone	81.8	43.9	48.7			10.5
	Ibuprofen	56.6	50.1	59.1			16.4
	Imazapyr	79.5	66.9	74.4			10.5
	Imidacloprid	90.1	78.9	80.7			2.33
	Linuron	57.5	54.5	65.1			17.8
	Mandestrobin	82.6	68.6	81.5			17.1
	MCPP	111	101	108			6.72
	Naproxen	73.0	46.2	83.0			56.9
	Primidone	87.3	52.9	57.9			8.99
	Pyraclostrobin	80.9	75.8	79.4			4.67
	Silvex	90.3	65.8	70.4			6.63
	Sucralose	108	111	108			2.53
	Thiamethoxam	95.1	55.3	56.4			2.05
	Tolfenpyrad	48.5	52.4	58.1			10.3
	Triclopyr	108	104	98.6			5.21

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2441338

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	09/28/2023	09/29/2023 13:00	Hana Lee	09/29/2023 16:00	Tae K Lee	2441338
	09/28/2023	09/29/2023 13:00	Hana Lee	09/30/2023 16:15	Tae K Lee	2441338
	09/28/2023	10/02/2023 13:15	Hoor Shaik	10/04/2023 00:32	Juyoung Kim	2441338