

Chemical Analysis Report

SE-DIST-2023-04-12-01

Florida DEP Laboratory
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Tallahassee, FL 32399-2400
DOH Accreditation E31780

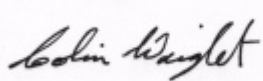
Event Description: **SMP - Stuart w/Trend**
Request ID: **RQ-2023-02-27-38**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
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FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
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Certified by: Colin Wright, Program Administrator

Date Certified: 28-APR-2023 08:41



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: ROEBUCK CREEK AT LOCKS

Collection Date/Time: 04/11/2023 08:30

Field ID: G2SE0029

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2399882	EPA 8321B	2,4-D	0.0020	U	ug/L	P428433	
		Acesulfame K	0.73		ug/L	P428312	
		2,4,5-T	0.0040	U	ug/L	P428433	
		AMPA	0.10	U	ug/L	P428312	
		Acetaminophen	0.0080	U	ug/L	P428433	
		Acetamiprid	0.0020	U	ug/L	P428433	
		Endothall	0.25	U	ug/L	P428312	
		Glufosinate	0.10	U	ug/L	P428312	
		Glyphosate	0.10	U	ug/L	P428312	
		Afidopyropen	0.0020	U	ug/L	P428433	
		Bentazon	0.17		ug/L	P428433	
		Sucralose	2.4		ug/L	P428312	
		Benzovindiflupyr	0.0020	U	ug/L	P428433	
		Carbamazepine	0.0012	I	ug/L	P428433	
		Clothianidin	0.0020	U	ug/L	P428433	
		Dinotefuran	0.0020	U	ug/L	P428433	
		Diuron	0.0020	U	ug/L	P428433	
		Fenuron	0.032	U	ug/L	P428433	MS
		Fluridone	8.0E-04	U	ug/L	P428433	
		Imazapyr	0.025		ug/L	P428433	
		Hydrocodone	0.0020	U	ug/L	P428433	
		Ibuprofen	0.080	U	ug/L	P428433	
		Imidacloprid	0.0020	U	ug/L	P428433	
		Linuron	0.0040	U	ug/L	P428433	
		Mandestrobin	0.0020	U	ug/L	P428433	
		MCPP	0.0020	U	ug/L	P428433	
		Naproxen	0.0080	U	ug/L	P428433	
		Primidone	0.0040	U	ug/L	P428433	
		Pyraclostrobin	0.0020	U	ug/L	P428433	
		Silvex	0.0040	U	ug/L	P428433	
		Thiamethoxam	0.0020	U	ug/L	P428433	
		Tolfenpyrad	0.0020	U	ug/L	P428433	
		Triclopyr	0.0040	U	ug/L	P428433	

Ref. Method and Comment:

EPA 8321B: MS accuracy for bentazon 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: P428312

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: P428433

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: P428312

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	98.8		P	40 - 150
AMPA	118		P	40 - 150
Endothall	89.3		P	40 - 150
Glufosinate	98.7		P	40 - 150
Glyphosate	124		P	40 - 150
Sucralose	112		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P428433

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	98.4		P	40 - 150
2,4,5-T	84.6		P	40 - 150
Acetaminophen	69.2		P	30 - 150
Acetamiprid	79.1		P	40 - 150
Afidopyropen	58.0		P	30 - 150
Bentazon	80.6		P	30 - 150
Benzovindiflupyr	81.4		P	40 - 150
Carbamazepine	78.5		P	40 - 150
Clothianidin	82.7		P	40 - 150
Dinotefuran	88.1		P	40 - 150
Diuron	99.6		P	40 - 150
Fenuron	79.1		P	40 - 150
Fluridone	64.9		P	40 - 150
Hydrocodone	83.7		P	40 - 150
Ibuprofen	59.7		P	40 - 150
Imazapyr	87.2		P	40 - 150
Imidacloprid	82.3		P	40 - 150
Linuron	70.3		P	40 - 150
Mandestrobin	83.2		P	40 - 150
MCPP	96.8		P	40 - 150
Naproxen	66.0		P	40 - 150
Primidone	83.8		P	40 - 150
Pyraclostrobin	74.4		P	40 - 150
Silvex	100		P	40 - 150
Thiamethoxam	80.2		P	40 - 150
Tolfenpyrad	53.0		P	30 - 150
Triclopyr	95.8		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P428312

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399392	Acesulfame K	93.0	93.7	P/P	40 - 150
2399392	AMPA	118	117	P/P	40 - 150
2399392	Endothall	96.7	98.9	P/P	40 - 150
2399392	Glufosinate	95.9	99.4	P/P	40 - 150
2399392	Glyphosate	110	107	P/P	40 - 150
2399392	Sucralose	97.5	93.3	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P428433

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399997	2,4-D	89.5	92.4	P/P	40 - 150
2399997	2,4,5-T	103	108	P/P	40 - 150
2399997	Acetaminophen	94.4	95.1	P/P	30 - 150
2399997	Acetamiprid	49.8	44.5	P/P	40 - 150
2399997	Afidopyropen	72.9	79.0	P/P	30 - 150
2399997	Benzovindiflupyr	89.0	82.6	P/P	40 - 150
2399997	Carbamazepine	57.5	59.8	P/P	40 - 150
2399997	Clothianidin	73.2	74.9	P/P	40 - 150
2399997	Dinotefuran	49.4	49.6	P/P	40 - 150
2399997	Diuron	71.7	71.2	P/P	40 - 150
2399997	Fenuron	38.4	40.6	F/P	40 - 150
2399997	Fluridone	69.0	57.7	P/P	40 - 150
2399997	Hydrocodone	46.2	44.4	P/P	40 - 150
2399997	Ibuprofen	61.7	55.7	P/P	40 - 150
2399997	Imazapyr	71.1	68.9	P/P	40 - 150
2399997	Imidacloprid	99.4	102	P/P	40 - 150
2399997	Linuron	74.8	68.0	P/P	40 - 150
2399997	Mandestrobin	89.1	83.9	P/P	40 - 150
2399997	MCP	104	121	P/P	40 - 150
2399997	Naproxen	66.7	59.6	P/P	40 - 150
2399997	Primidone	69.6	78.0	P/P	40 - 150
2399997	Pyraclostrobin	80.2	77.9	P/P	40 - 150
2399997	Silvex	114	106	P/P	40 - 150
2399997	Thiamethoxam	53.9	58.6	P/P	40 - 150
2399997	Tolfenpyrad	49.2	55.9	P/P	30 - 150
2399997	Triclopyr	123	117	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P428312

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399392	Acesulfame K	0.734	Spike	P	0 - 30
2399392	AMPA	0.933	Spike	P	0 - 30
2399392	Endothall	2.21	Spike	P	0 - 30
2399392	Glufosinate	3.67	Spike	P	0 - 30
2399392	Glyphosate	2.04	Spike	P	0 - 30
2399392	Sucralose	3.51	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P428433

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399997	2,4-D	3.19	Spike	P	0 - 30
2399997	2,4,5-T	4.27	Spike	P	0 - 30
2399997	Acetaminophen	0.756	Spike	P	0 - 30
2399997	Acetamiprid	11.2	Spike	P	0 - 30
2399997	Afidopyropen	8.09	Spike	P	0 - 30
2399997	Bentazon	15.7	Spike	P	0 - 30
2399997	Benzovindiflupyr	7.52	Spike	P	0 - 30
2399997	Carbamazepine	3.77	Spike	P	0 - 30
2399997	Clothianidin	2.22	Spike	P	0 - 30
2399997	Dinotefuran	0.350	Spike	P	0 - 30
2399997	Diuron	0.710	Spike	P	0 - 30
2399997	Fenuron	5.54	Spike	P	0 - 30
2399997	Fluridone	17.7	Spike	P	0 - 30
2399997	Hydrocodone	4.08	Spike	P	0 - 30
2399997	Ibuprofen	10.2	Spike	P	0 - 30
2399997	Imazapyr	1.33	Spike	P	0 - 30
2399997	Imidacloprid	2.33	Spike	P	0 - 30
2399997	Linuron	9.50	Spike	P	0 - 30
2399997	Mandestrobin	5.91	Spike	P	0 - 30
2399997	MCPP	15.0	Spike	P	0 - 30
2399997	Naproxen	11.3	Spike	P	0 - 30
2399997	Primidone	11.3	Spike	P	0 - 30
2399997	Pyraclostrobin	2.87	Spike	P	0 - 30
2399997	Silvex	6.71	Spike	P	0 - 30
2399997	Thiamethoxam	8.31	Spike	P	0 - 30
2399997	Tolfenpyrad	12.8	Spike	P	0 - 30
2399997	Triclopyr	5.12	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2399882

Field Sample ID: G2SE0029

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	101	P	30 - 160
EPA 8321B	Acetaminophen-d4	77.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	76.8	P	30 - 160
EPA 8321B	Diuron-d6	85.9	P	30 - 160
EPA 8321B	Endothall-d6	95.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	127	P	30 - 160
EPA 8321B	Ibuprofen-d3	79.4	P	30 - 160
EPA 8321B	Primidone-d5	86.2	P	30 - 160
EPA 8321B	Sucralose-d6	118	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A118606
Included Lab Sample IDs: 2399882

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	99.5	99.0	P/P	60 - 160
Sucralose	90.3	98.6	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A118625
Included Lab Sample IDs: 2399882

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	120	113	P/P	60 - 160
Endothall	98.5	95.7	P/P	60 - 160
Glufosinate	106	98.4	P/P	60 - 160
Glyphosate	116	113	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A118768
Included Lab Sample IDs: 2399882

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	92.9	92.0	P/P	50 - 150
2,4,5-T	96.6	83.4	P/P	50 - 150
Acetaminophen	86.9	90.7	P/P	60 - 160
Acetamiprid	111	115	P/P	50 - 150
Afidopyropen	127	87.6	P/P	50 - 150
Bentazon	96.7	107	P/P	50 - 160
Benzovindiflupyr	100	103	P/P	50 - 150
Carbamazepine	100	98.5	P/P	60 - 150
Clothianidin	97.7	94.4	P/P	60 - 150
Dinotefuran	93.7	98.2	P/P	50 - 150
Diuron	141	123	P/P	60 - 160
Fenuron	99.3	101	P/P	60 - 150
Fluridone	98.7	90.5	P/P	60 - 160
Hydrocodone	110	107	P/P	60 - 150
Ibuprofen	77.5	71.8	P/P	50 - 160
Imazapyr	107	106	P/P	50 - 150
Imidacloprid	102	96.8	P/P	60 - 150
Linuron	86.3	87.4	P/P	60 - 150
Mandestrobin	111	103	P/P	50 - 150
MCPP	94.8	102	P/P	50 - 150
Naproxen	134	64.4	P/P	50 - 160
Primidone	103	101	P/P	60 - 150
Pyraclostrobin	105	106	P/P	60 - 150
Silvex	96.4	106	P/P	50 - 150
Thiamethoxam	102	105	P/P	50 - 150
Tolfenpyrad	98.4	102	P/P	60 - 150
Triclopyr	83.3	93.2	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		Precision SMP	MS
			LCS			
EPA 8321B	2,4-D	98.4	89.5	92.4		3.19
	2,4,5-T	84.6	103	108		4.27
	Acesulfame K	98.8	93.0	93.7		0.734
	Acetaminophen	69.2	94.4	95.1		0.756
	Acetamiprid	79.1	49.8	44.5		11.2
	Afidopyropen	58.0	72.9	79.0		8.09
	AMPA	118	118	117		0.933
	Bentazon	80.6				15.7
	Benzovindiflupyr	81.4	89.0	82.6		7.52
	Carbamazepine	78.5	57.5	59.8		3.77
	Clothianidin	82.7	73.2	74.9		2.22
	Dinotefuran	88.1	49.4	49.6		0.350
	Diuron	99.6	71.7	71.2		0.710
	Endothall	89.3	96.7	98.9		2.21
	Fenuron	79.1	38.4	40.6		5.54
	Fluridone	64.9	69.0	57.7		17.7
	Glufosinate	98.7	95.9	99.4		3.67
	Glyphosate	124	110	107		2.04
	Hydrocodone	83.7	46.2	44.4		4.08
	Ibuprofen	59.7	61.7	55.7		10.2
	Imazapyr	87.2	71.1	68.9		1.33
	Imidacloprid	82.3	99.4	102		2.33
	Linuron	70.3	74.8	68.0		9.50
	Mandestrobin	83.2	89.1	83.9		5.91
	MCPP	96.8	104	121		15.0
	Naproxen	66.0	66.7	59.6		11.3
	Primidone	83.8	69.6	78.0		11.3
	Pyraclostrobin	74.4	80.2	77.9		2.87
	Silvex	100	114	106		6.71
	Sucralose	112	97.5	93.3		3.51
	Thiamethoxam	80.2	53.9	58.6		8.31
	Tolfenpyrad	53.0	49.2	55.9		12.8
	Triclopyr	95.8	123	117		5.12

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2399882

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	04/12/2023	04/14/2023 09:00	Hoor Shaik	04/18/2023 11:41	Juyoung Kim	2399882
	04/12/2023	04/14/2023 09:00	Hoor Shaik	04/18/2023 17:57	Juyoung Kim	2399882
	04/12/2023	04/14/2023 10:00	Manjita Shrestha	04/14/2023 14:46	Manjita Shrestha	2399882
	04/12/2023	04/14/2023 10:00	Manjita Shrestha	04/15/2023 08:16	Manjita Shrestha	2399882