

Chemical Analysis Report

CEN-DIST-2021-07-15-04

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

Event Description: **Tributary to Econlockhatchee**
Request ID: **RQ-2021-07-05-08**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection

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Date Certified: 26-JUL-2021 12:06



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: Little Econ Tributary @ Jay Blanchard Trail

Collection Date/Time: 07/14/2021 09:15

Field ID: G2CE0252

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2262440	EPA 8321B	2,4-D	0.27		ug/L	P401065	
		Acesulfame K	0.17	I	ug/L	P400997	
		2,4,5-T	0.0040	U	ug/L	P401065	
		AMPA	0.43		ug/L	P400997	
		Acetaminophen	0.025	I	ug/L	P401065	
		Acetamiprid	0.0020	U	ug/L	P401065	
		Endothall	0.25	U	ug/L	P400997	
		Glufosinate	0.10	U	ug/L	P400997	
		Glyphosate	1.6		ug/L	P400997	
		Afidopyropen	0.0020	U	ug/L	P401065	
		Bentazon	0.021		ug/L	P401065	
		Sucralose	0.42		ug/L	P400997	
		Benzovindiflupyr	0.0020	U	ug/L	P401065	
		Carbamazepine	8.0E-04	U	ug/L	P401065	
		Clothianidin	0.0044	I	ug/L	P401065	
		Dinotefuran	0.0020	U	ug/L	P401065	
		Diuron	0.0040	I	ug/L	P401065	
		Fenuron	0.016	U	ug/L	P401065	
		Fluridone	0.040		ug/L	P401065	
		Imazapyr	0.61		ug/L	P401065	
		Hydrocodone	0.0020	U	ug/L	P401065	
		Ibuprofen	0.020	U	ug/L	P401065	
		Imidacloprid	0.018		ug/L	P401065	
		Linuron	0.0040	U	ug/L	P401065	
		Mandestrobin	0.0020	U	ug/L	P401065	
		MCPP	0.0020	U	ug/L	P401065	
		Naproxen	0.0080	U	ug/L	P401065	
		Primidone	0.0040	U	ug/L	P401065	
		Pyraclostrobin	0.0020	U	ug/L	P401065	
		Thiamethoxam	0.0020	U	ug/L	P401065	
		Tolfenpyrad	0.0020	U	ug/L	P401065	
		Triclopyr	0.0040	U	ug/L	P401065	

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: P400997

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: P401065

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	0.016	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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P400997

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	102		P	40 - 150
AMPA	98.8		P	40 - 150
Endothall	90.2		P	40 - 150
Glufosinate	98.8		P	40 - 150
Glyphosate	102		P	40 - 150
Sucralose	96.9		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P401065

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	125		P	30 - 160
2,4,5-T	117		P	30 - 160
Acetaminophen	91.8		P	30 - 160
Acetamiprid	90.4		P	30 - 160
Afidopyropen	76.1		P	30 - 160
Bentazon	105		P	30 - 160
Benzovindiflupyr	93.8		P	30 - 160
Carbamazepine	98.6		P	30 - 160
Clothianidin	98.7		P	30 - 160
Dinotefuran	100		P	30 - 160
Diuron	88.3		P	30 - 160
Fenuron	102		P	30 - 160
Fluridone	95.7		P	30 - 160
Hydrocodone	99.7		P	30 - 160
Ibuprofen	93.1		P	30 - 160
Imazapyr	107		P	30 - 160
Imidacloprid	99.9		P	30 - 160
Linuron	82.8		P	30 - 160
Mandestrobin	99.8		P	30 - 160
MCPP	119		P	30 - 160
Naproxen	80.9		P	30 - 160
Primidone	95.3		P	30 - 160
Pyraclostrobin	90.5		P	30 - 160
Thiamethoxam	102		P	30 - 160
Tolfenpyrad	52.5		P	30 - 160
Triclopyr	119		P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P400997

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2262210	Acesulfame K	128	131	P/P	40 - 150
2262210	AMPA	66.7	70.9	P/P	40 - 150
2262210	Endothall	111	115	P/P	40 - 150
2262210	Glufosinate	79.3	80.3	P/P	40 - 150
2262210	Glyphosate	68.4	67.3	P/P	40 - 150
2262210	Sucralose	104	100	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P401065

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2262208	2,4-D	111	118	P/P	30 - 160
2262208	2,4,5-T	99.6	102	P/P	30 - 160
2262208	Acetaminophen	102	107	P/P	30 - 160
2262208	Acetamiprid	84.0	92.5	P/P	30 - 160
2262208	Afidopyropen	61.9	70.1	P/P	30 - 160
2262208	Benzovindiflupyr	84.6	85.5	P/P	30 - 160
2262208	Carbamazepine	89.1	83.0	P/P	30 - 160
2262208	Clothianidin	107	112	P/P	30 - 160
2262208	Dinotefuran	124	128	P/P	30 - 160
2262208	Diuron	72.3	70.6	P/P	30 - 160
2262208	Fenuron	97.2	94.3	P/P	30 - 160
2262208	Fluridone	79.7	80.1	P/P	30 - 160
2262208	Hydrocodone	113	112	P/P	30 - 160
2262208	Ibuprofen	71.6	74.8	P/P	30 - 160
2262208	Imidacloprid	145	151	P/P	30 - 160
2262208	Linuron	68.0	68.0	P/P	30 - 160
2262208	Mandestrobin	88.2	87.7	P/P	30 - 160
2262208	MCPP	99.5	104	P/P	30 - 160
2262208	Naproxen	71.1	75.8	P/P	30 - 160
2262208	Primidone	104	103	P/P	30 - 160
2262208	Pyraclostrobin	85.3	87.4	P/P	30 - 160
2262208	Thiamethoxam	141	147	P/P	30 - 160
2262208	Tolfenpyrad	52.0	52.0	P/P	30 - 160
2262208	Triclopyr	100	103	P/P	30 - 160

Quality Assurance Report

Precision

Reference Method: EPA 8321B

Batch ID: P400997

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2262210	Acesulfame K	2.31	Spike	P	0 - 30
2262210	AMPA	2.15	Spike	P	0 - 30
2262210	Endothall	3.85	Spike	P	0 - 30
2262210	Glufosinate	1.28	Spike	P	0 - 30
2262210	Glyphosate	0.513	Spike	P	0 - 30
2262210	Sucralose	3.01	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P401065

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2262208	2,4-D	4.85	Spike	P	0 - 30
2262208	2,4,5-T	2.58	Spike	P	0 - 30
2262208	Acetaminophen	4.50	Spike	P	0 - 30
2262208	Acetamiprid	9.67	Spike	P	0 - 30
2262208	Afidopyropen	12.5	Spike	P	0 - 30
2262208	Bentazon	12.0	Spike	P	0 - 30
2262208	Benzovindiflupyr	1.03	Spike	P	0 - 30
2262208	Carbamazepine	7.12	Spike	P	0 - 30
2262208	Clothianidin	4.16	Spike	P	0 - 30
2262208	Dinotefuran	3.03	Spike	P	0 - 30
2262208	Diuron	2.18	Spike	P	0 - 30
2262208	Fenuron	3.02	Spike	P	0 - 30
2262208	Fluridone	0.465	Spike	P	0 - 30
2262208	Hydrocodone	1.20	Spike	P	0 - 30
2262208	Ibuprofen	4.39	Spike	P	0 - 30
2262208	Imazapyr	12.7	Spike	P	0 - 30
2262208	Imidacloprid	3.93	Spike	P	0 - 30
2262208	Linuron	0.0942	Spike	P	0 - 30
2262208	Mandestrobin	0.527	Spike	P	0 - 30
2262208	MCPP	4.68	Spike	P	0 - 30
2262208	Naproxen	6.38	Spike	P	0 - 30
2262208	Primidone	1.08	Spike	P	0 - 30
2262208	Pyraclostrobin	2.47	Spike	P	0 - 30
2262208	Thiamethoxam	3.93	Spike	P	0 - 30
2262208	Tolfenpyrad	0.112	Spike	P	0 - 30
2262208	Triclopyr	3.12	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2262440

Field Sample ID: G2CE0252

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	107	P	30 - 160
EPA 8321B	Acetaminophen-d4	96.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	86.4	P	30 - 160
EPA 8321B	Diuron-d6	67.3	P	30 - 160
EPA 8321B	Endothall-d6	111	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	77.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	76.9	P	30 - 160
EPA 8321B	Primidone-d5	93.1	P	30 - 160
EPA 8321B	Sucralose-d6	101	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A106658
Included Lab Sample IDs: 2262440

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	103	103	P/P	60 - 160
Glufosinate	100	101	P/P	60 - 160
Glyphosate	104	102	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A106673
Included Lab Sample IDs: 2262440

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	108	105	P/P	60 - 160
Endothall	95.4	94.7	P/P	60 - 160
Sucralose	95.7	126	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A106699
Included Lab Sample IDs: 2262440

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	102	102	P/P	50 - 150
2,4,5-T	101	108	P/P	50 - 150
Acetaminophen	105	102	P/P	60 - 160
Acetamiprid	104	102	P/P	50 - 150
Afidopyropen	106	109	P/P	50 - 150
Bentazon	117	115	P/P	50 - 160
Benzovindiflupyr	110	109	P/P	50 - 160
Carbamazepine	106	106	P/P	60 - 150
Clothianidin	104	104	P/P	60 - 150
Dinotefuran	106	106	P/P	50 - 150
Diuron	115	112	P/P	60 - 160
Fenuron	106	106	P/P	60 - 150
Fluridone	111	106	P/P	60 - 160
Hydrocodone	111	107	P/P	60 - 150
Ibuprofen	99.9	111	P/P	50 - 160
Imazapyr	101	103	P/P	50 - 160
Imidacloprid	101	101	P/P	60 - 150
Linuron	105	106	P/P	60 - 150
Mandestrobin	111	110	P/P	50 - 150
MCPP	105	105	P/P	50 - 150
Naproxen	96.7	98.4	P/P	50 - 160
Primidone	101	99.9	P/P	60 - 150
Pyraclostrobin	114	113	P/P	60 - 150
Thiamethoxam	106	108	P/P	50 - 150
Tolfenpyrad	105	104	P/P	60 - 150
Triclopyr	104	107	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	125	111	118		4.85
	2,4,5-T	117	99.6	102		2.58
	Acesulfame K	102	128	131		2.31
	Acetaminophen	91.8	102	107		4.50
	Acetamiprid	90.4	84.0	92.5		9.67
	Afidopyropen	76.1	61.9	70.1		12.5
	AMPA	98.8	66.7	70.9		2.15
	Bentazon	105				12.0
	Benzovindiflupyr	93.8	84.6	85.5		1.03
	Carbamazepine	98.6	89.1	83.0		7.12
	Clothianidin	98.7	107	112		4.16
	Dinotefuran	100	124	128		3.03
	Diuron	88.3	72.3	70.6		2.18
	Endothall	90.2	111	115		3.85
	Fenuron	102	97.2	94.3		3.02
	Fluridone	95.7	79.7	80.1		0.465
	Glufosinate	98.8	79.3	80.3		1.28
	Glyphosate	102	68.4	67.3		0.513
	Hydrocodone	99.7	113	112		1.20
	Ibuprofen	93.1	71.6	74.8		4.39
	Imazapyr	107				12.7
	Imidacloprid	99.9	145	151		3.93
	Linuron	82.8	68.0	68.0		0.0942
	Mandestrobin	99.8	88.2	87.7		0.527
	MCPP	119	99.5	104		4.68
	Naproxen	80.9	71.1	75.8		6.38
	Primidone	95.3	104	103		1.08
	Pyraclostrobin	90.5	85.3	87.4		2.47
	Sucralose	96.9	104	100		3.01
	Thiamethoxam	102	141	147		3.93
	Tolfenpyrad	52.5	52.0	52.0		0.112
	Triclopyr	119	100	103		3.12

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2262440

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	07/15/2021	07/16/2021 10:00	Pramila Ghimire	07/16/2021 12:13	Juyoung Kim	2262440
	07/15/2021	07/16/2021 10:00	Pramila Ghimire	07/17/2021 01:57	Pramila Ghimire	2262440
	07/15/2021	07/19/2021 09:00	Hoor Shaik	07/20/2021 11:12	Juyoung Kim	2262440