

Chemical Analysis Report

CEN-DIST-2020-06-30-01

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

Event Description: **Boggy Ck and Shingle Ck HA**

Request ID: **RQ-2020-06-29-46**

Customer: **CEN-DIST**

Project ID: **SMP**

Send Reports to:

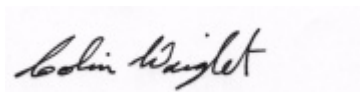
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Certified by: Colin Wright, Program Administrator

Date Certified: 10-JUL-2020 14:34

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular background.

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: Boggy Creek @ 80m SE J Lawson Blvd

Collection Date/Time: 06/29/2020 10:22

Field ID: G4CE0181

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2179546	EPA 8321B	2,4-D	0.0034	I	ug/L	P383924	
		Acesulfame K**	0.10	U	ug/L	P383878	
		AMPA**	0.42		ug/L	P383878	
		Sucralose**	0.47		ug/L	P383878	
		Acetaminophen**	0.0080	U	ug/L	P383924	
		Acetamiprid**	0.0020	U	ug/L	P383924	
		Endothall**	0.25	U	ug/L	P383878	
		Glufosinate**	0.10	U	ug/L	P383878	
		Glyphosate**	0.21	I	ug/L	P383878	
		Afidopyropen**	0.0020	U	ug/L	P383924	
		Bentazon	0.024		ug/L	P383924	
		Benzovindiflupyr**	0.0020	U	ug/L	P383924	
		Carbamazepine**	8.0E-04	U	ug/L	P383924	
		Clothianidin**	0.0024	I	ug/L	P383924	
		Dinotefuran**	0.0020	U	ug/L	P383924	
		Diuron	0.0020	U	ug/L	P383924	
		Fenuron	0.016	U	ug/L	P383924	
		Fluridone**	0.037		ug/L	P383924	
		Imazapyr**	0.50		ug/L	P383924	
		Hydrocodone**	0.0020	U	ug/L	P383924	
		Ibuprofen**	0.020	U	ug/L	P383924	
		Imidacloprid	0.0094		ug/L	P383924	
		Linuron	0.0040	U	ug/L	P383924	
		Mandestrobin**	0.0020	U	ug/L	P383924	
		MCPP	0.0020	U	ug/L	P383924	
		Naproxen**	0.0080	U	ug/L	P383924	
		Primidone**	0.0040	U	ug/L	P383924	
		Pyraclostrobin**	0.0020	U	ug/L	P383924	RPD
		Thiamethoxam**	0.0032	I	ug/L	P383924	
		Tolfenpyrad**	0.0020	U	ug/L	P383924	
		Triclopyr**	0.0040	U	ug/L	P383924	

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P383878

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: P383924

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P383878

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	93.0		P	40 - 150
AMPA	112		P	40 - 150
Endothall	80.9		P	40 - 150
Glufosinate	117		P	40 - 150
Glyphosate	98.3		P	40 - 140
Sucralose	75.0		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P383924

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	111		P	30 - 160
Acetaminophen	80.0		P	30 - 160
Acetamiprid	90.5		P	30 - 160
Afidopyropen	82.0		P	30 - 160
Bentazon	103		P	30 - 160
Benzovindiflupyr	82.9		P	30 - 160
Carbamazepine	80.2		P	30 - 160
Clothianidin	82.6		P	30 - 160
Dinotefuran	90.4		P	30 - 160
Diuron	69.8		P	30 - 160
Fenuron	96.4		P	30 - 160
Fluridone	86.9		P	30 - 160
Hydrocodone	85.0		P	30 - 160
Ibuprofen	72.7		P	30 - 160
Imazapyr	79.8		P	30 - 160
Imidacloprid	105		P	30 - 160
Linuron	70.3		P	30 - 160
Mandestrobin	83.8		P	30 - 160
MCPP	123		P	30 - 160
Naproxen	101		P	30 - 160
Primidone	84.3		P	30 - 160
Pyraclostrobin	82.1		P	30 - 160
Thiamethoxam	85.4		P	30 - 160
Tolfenpyrad	58.7		P	30 - 160
Triclopyr	86.1		P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P383878

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2179546	Acesulfame K	62.9	60.6	P/P	40 - 150
2179546	AMPA	114	105	P/P	40 - 150
2179546	Endothall	86.8	85.9	P/P	40 - 150
2179546	Glufosinate	106	94.9	P/P	40 - 150
2179546	Glyphosate	78.4	72.1	P/P	40 - 140
2179546	Sucralose	87.9	82.3	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P383924

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2179337	2,4-D	109	124	P/P	30 - 160
2179337	Acetaminophen	69.5	69.0	P/P	30 - 160
2179337	Acetamiprid	53.7	65.5	P/P	30 - 160
2179337	Afidopyropen	59.1	79.2	P/P	30 - 160
2179337	Bentazon	82.4	91.2	P/P	30 - 160
2179337	Benzovindiflupyr	70.2	86.7	P/P	30 - 160
2179337	Carbamazepine	51.2	53.7	P/P	30 - 160
2179337	Clothianidin	58.8	63.8	P/P	30 - 160
2179337	Dinotefuran	73.0	78.8	P/P	30 - 160
2179337	Diuron	44.2	45.3	P/P	30 - 160
2179337	Fenuron	58.9	62.4	P/P	30 - 160
2179337	Fluridone	73.3	84.8	P/P	30 - 160
2179337	Hydrocodone	53.2	59.2	P/P	30 - 160
2179337	Ibuprofen	60.7	64.8	P/P	30 - 160
2179337	Imazapyr	77.1	82.5	P/P	30 - 160
2179337	Imidacloprid	96.2	102	P/P	30 - 160
2179337	Linuron	50.4	53.8	P/P	30 - 160
2179337	Mandestrobin	69.7	80.9	P/P	30 - 160
2179337	MCP	106	120	P/P	30 - 160
2179337	Naproxen	74.8	77.6	P/P	30 - 160
2179337	Primidone	67.5	66.8	P/P	30 - 160
2179337	Pyraclostrobin	66.8	93.3	P/P	30 - 160
2179337	Thiamethoxam	65.5	69.4	P/P	30 - 160
2179337	Tolfenpyrad	42.4	56.3	P/P	30 - 160
2179337	Triclopyr	80.5	95.4	P/P	30 - 160

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P383878

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2179546	Acesulfame K	3.75	Spike	P	0 - 30
2179546	AMPA	6.18	Spike	P	0 - 30
2179546	Endothall	0.997	Spike	P	0 - 30
2179546	Glufosinate	11.3	Spike	P	0 - 30
2179546	Glyphosate	6.57	Spike	P	0 - 30
2179546	Sucralose	5.37	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P383924

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2179337	2,4-D	12.8	Spike	P	0 - 30
2179337	Acetaminophen	0.729	Spike	P	0 - 30
2179337	Acetamiprid	19.7	Spike	P	0 - 30
2179337	Afidopyropen	29.1	Spike	P	0 - 30
2179337	Bentazon	10.1	Spike	P	0 - 30
2179337	Benzovindiflupyr	21.1	Spike	P	0 - 30
2179337	Carbamazepine	4.83	Spike	P	0 - 30
2179337	Clothianidin	8.27	Spike	P	0 - 30
2179337	Dinotefuran	7.73	Spike	P	0 - 30
2179337	Diuron	2.37	Spike	P	0 - 30
2179337	Fenuron	5.81	Spike	P	0 - 30
2179337	Fluridone	14.6	Spike	P	0 - 30
2179337	Hydrocodone	10.7	Spike	P	0 - 30
2179337	Ibuprofen	6.56	Spike	P	0 - 30
2179337	Imazapyr	5.63	Spike	P	0 - 30
2179337	Imidacloprid	4.37	Spike	P	0 - 30
2179337	Linuron	6.50	Spike	P	0 - 30
2179337	Mandestrobin	14.8	Spike	P	0 - 30
2179337	MCPP	12.1	Spike	P	0 - 30
2179337	Naproxen	3.59	Spike	P	0 - 30
2179337	Primidone	1.11	Spike	P	0 - 30
2179337	Pyraclostrobin	33.1	Spike	F	0 - 30
2179337	Thiamethoxam	5.83	Spike	P	0 - 30
2179337	Tolfenpyrad	28.2	Spike	P	0 - 30
2179337	Triclopyr	16.9	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2179546
Field Sample ID: G4CE0181

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	97.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	78.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	63.6	P	30 - 160
EPA 8321B	Diuron-d6	55.9	P	30 - 160
EPA 8321B	Endothall-d6	104	P	30 - 160
EPA 8321B	Endothall-d6	104	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	78.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	78.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	71.0	P	30 - 160
EPA 8321B	Primidone-d5	69.7	P	30 - 160
EPA 8321B	Sucralose-d6	90.5	P	30 - 160
EPA 8321B	Sucralose-d6	90.5	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A99620
 Included Lab Sample IDs: 2179546

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	109	106	P/P	60 - 160
Glufosinate	108	116	P/P	60 - 160
Glyphosate	99.6	99.1	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A99642
 Included Lab Sample IDs: 2179546

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	84.9	95.0	P/P	60 - 160
Endothall	74.5	82.1	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A99681
 Included Lab Sample IDs: 2179546

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	72.9	70.9	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A99755
 Included Lab Sample IDs: 2179546

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	96.1	77.9	P/P	50 - 150
Acetaminophen	110	110	P/P	60 - 160
Acetamiprid	108	107	P/P	50 - 150
Afidopyropen	103	120	P/P	50 - 150
Bentazon	108	122	P/P	50 - 160
Benzovindiflupyr	108	118	P/P	50 - 150
Carbamazepine	105	117	P/P	60 - 150
Clothianidin	116	111	P/P	60 - 150
Dinotefuran	103	106	P/P	50 - 150
Diuron	95.9	107	P/P	60 - 160
Fenuron	109	106	P/P	60 - 150
Fluridone	117	115	P/P	60 - 160
Hydrocodone	116	111	P/P	60 - 150
Ibuprofen	83.6	85.0	P/P	50 - 160
Imazapyr	88.0	82.7	P/P	50 - 150
Imidacloprid	103	104	P/P	60 - 150
Linuron	95.3	118	P/P	60 - 150
Mandestrobin	116	120	P/P	50 - 150
MCPP	102	101	P/P	50 - 150
Naproxen	103	117	P/P	50 - 160
Primidone	95.4	101	P/P	60 - 150
Pyraclostrobin	118	131	P/P	60 - 150
Thiamethoxam	111	108	P/P	50 - 150
Tolfenpyrad	110	112	P/P	60 - 150
Triclopyr	90.0	90.3	P/P	50 - 150

Quality Assurance Report

Calibration Verification

* 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	111	109	124		12.8
	Acesulfame K	93.0	62.9	60.6		3.75
	Acetaminophen	80.0	69.5	69.0		0.729
	Acetamiprid	90.5	53.7	65.5		19.7
	Afidopyropen	82.0	59.1	79.2		29.1
	AMPA	112	114	105		6.18
	Bentazon	103	82.4	91.2		10.1
	Benzovindiflupyr	82.9	70.2	86.7		21.1
	Carbamazepine	80.2	51.2	53.7		4.83
	Clothianidin	82.6	58.8	63.8		8.27
	Dinotefuran	90.4	73.0	78.8		7.73
	Diuron	69.8	44.2	45.3		2.37
	Endothall	80.9	86.8	85.9		0.997
	Fenuron	96.4	58.9	62.4		5.81
	Fluridone	86.9	73.3	84.8		14.6
	Glufosinate	117	106	94.9		11.3
	Glyphosate	98.3	78.4	72.1		6.57
	Hydrocodone	85.0	53.2	59.2		10.7
	Ibuprofen	72.7	60.7	64.8		6.56
	Imazapyr	79.8	77.1	82.5		5.63
	Imidacloprid	105	96.2	102		4.37
	Linuron	70.3	50.4	53.8		6.50
	Mandestrobin	83.8	69.7	80.9		14.8
	MCPP	123	106	120		12.1
	Naproxen	101	74.8	77.6		3.59
	Primidone	84.3	67.5	66.8		1.11
	Pyraclostrobin	82.1	66.8	93.3		33.1
	Sucralose	75.0	87.9	82.3		5.37
	Thiamethoxam	85.4	65.5	69.4		5.83
	Tolfenpyrad	58.7	42.4	56.3		28.2
	Triclopyr	86.1	80.5	95.4		16.9

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2179546
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2179546

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	06/30/2020	06/30/2020 15:15	Rebecca Ware	06/30/2020 16:12	Rebecca Ware	2179546
	06/30/2020	06/30/2020 15:15	Rebecca Ware	07/01/2020 10:41	Rebecca Ware	2179546
	06/30/2020	06/30/2020 15:15	Rebecca Ware	07/02/2020 18:59	Rebecca Ware	2179546
	06/30/2020	07/02/2020 13:30	Hoor Shaik	07/08/2020 08:33	Juyoung Kim	2179546