

Chemical Analysis Report

CEN-DIST-2020-08-19-01

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

Event Description: **Boggy Creek**
Request ID: **RQ-2020-08-10-55**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Date Certified: 26-AUG-2020 09:40



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: 08/18/2020 11:08

Field ID: G4CE0181

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2191061	EPA 8321B	2,4-D	0.0020	U	ug/L	P386256	
		Acesulfame K**	0.10	UJ	ug/L	P386257	MS
		AMPA**	0.35	I	ug/L	P386257	
		Sucralose**	0.38		ug/L	P386257	
		Acetaminophen**	0.0080	U	ug/L	P386256	
		Endothall**	0.25	U	ug/L	P386257	
		Acetamiprid**	0.0020	U	ug/L	P386256	
		Glufosinate**	0.10	U	ug/L	P386257	
		Glyphosate**	0.13	I	ug/L	P386257	
		Afidopyropen**	0.0020	U	ug/L	P386256	
		Bentazon	0.010		ug/L	P386256	
		Benzovindiflupyr**	0.0020	U	ug/L	P386256	
		Carbamazepine**	8.0E-04	U	ug/L	P386256	
		Clothianidin**	0.0021	I	ug/L	P386256	
		Dinotefuran**	0.0020	U	ug/L	P386256	
		Diuron	0.0020	U	ug/L	P386256	
		Fenuron	0.016	U	ug/L	P386256	
		Fluridone**	0.034		ug/L	P386256	
		Imazapyr**	0.35		ug/L	P386256	
		Hydrocodone**	0.0020	U	ug/L	P386256	
		Ibuprofen**	0.020	U	ug/L	P386256	
		Imidacloprid	0.0049	I	ug/L	P386256	
		Linuron	0.0040	U	ug/L	P386256	
		Mandestrobin**	0.0020	U	ug/L	P386256	
		MCPP	0.0020	U	ug/L	P386256	
		Naproxen**	0.0080	U	ug/L	P386256	
		Primidone**	0.0040	U	ug/L	P386256	
		Pyraclostrobin**	0.0020	U	ug/L	P386256	
		Thiamethoxam**	0.0020	U	ug/L	P386256	
		Tolfenpyrad**	0.0020	U	ug/L	P386256	
		Triclopyr**	0.0040	U	ug/L	P386256	

Ref. Method and Comment:
 EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
 Batch ID: P386256

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
MCP	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

Reference Method: EPA 8321B
 Batch ID: P386257

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P386256

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	115		P	30 - 160
Acetaminophen	82.2		P	30 - 160
Acetamiprid	71.7		P	30 - 160
Afidopyropen	58.2		P	30 - 160
Bentazon	61.8		P	30 - 160
Benzovindiflupyr	67.6		P	30 - 160
Carbamazepine	64.2		P	30 - 160
Clothianidin	88.3		P	30 - 160
Dinotefuran	94.8		P	30 - 160
Diuron	54.8		P	30 - 160
Fenuron	89.4		P	30 - 160
Fluridone	73.6		P	30 - 160
Hydrocodone	83.2		P	30 - 160
Ibuprofen	75.1		P	30 - 160
Imazapyr	70.3		P	30 - 160
Imidacloprid	101		P	30 - 160
Linuron	62.7		P	30 - 160
Mandestrobin	78.2		P	30 - 160
MCPP	123		P	30 - 160
Naproxen	62.8		P	30 - 160
Primidone	83.1		P	30 - 160
Pyraclostrobin	66.4		P	30 - 160
Thiamethoxam	86.9		P	30 - 160
Tolfenpyrad	43.2		P	30 - 160
Triclopyr	107		P	30 - 160

Reference Method: EPA 8321B

Batch ID: P386257

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	54.6		P	40 - 150
AMPA	86.6		P	40 - 150
Endothall	103		P	40 - 150
Glufosinate	91.9		P	40 - 150
Glyphosate	73.9		P	40 - 140
Sucralose	88.8		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P386256

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2190698	2,4-D	112	108	P/P	30 - 160
2190698	Acetaminophen	96.7	88.8	P/P	30 - 160
2190698	Acetamiprid	80.6	74.1	P/P	30 - 160
2190698	Afidopyropen	51.6	51.3	P/P	30 - 160
2190698	Bentazon	54.6	48.0	P/P	30 - 160
2190698	Benzovindiflupyr	70.2	72.0	P/P	30 - 160
2190698	Carbamazepine	67.4	64.7	P/P	30 - 160
2190698	Clothianidin	96.7	87.6	P/P	30 - 160
2190698	Dinotefuran	106	98.9	P/P	30 - 160
2190698	Diuron	59.5	53.9	P/P	30 - 160
2190698	Fenuron	88.6	83.2	P/P	30 - 160
2190698	Fluridone	85.5	83.5	P/P	30 - 160
2190698	Hydrocodone	87.0	85.0	P/P	30 - 160
2190698	Ibuprofen	79.6	72.4	P/P	30 - 160
2190698	Imazapyr	102	71.9	P/P	30 - 160
2190698	Imidacloprid	131	98.3	P/P	30 - 160
2190698	Linuron	67.6	57.5	P/P	30 - 160
2190698	Mandestrobin	82.4	75.9	P/P	30 - 160
2190698	MCP	121	112	P/P	30 - 160
2190698	Naproxen	74.2	88.0	P/P	30 - 160
2190698	Primidone	93.1	83.3	P/P	30 - 160
2190698	Pyraclostrobin	75.3	68.5	P/P	30 - 160
2190698	Thiamethoxam	105	96.9	P/P	30 - 160
2190698	Tolfenpyrad	47.0	42.0	P/P	30 - 160
2190698	Triclopyr	110	96.8	P/P	30 - 160

Reference Method: EPA 8321B

Batch ID: P386257

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2191061	Acesulfame K	34.9	36.1	F/F	40 - 150
2191061	AMPA	88.7	93.7	P/P	40 - 150
2191061	Endothall	100	110	P/P	40 - 150
2191061	Glufosinate	84.4	87.0	P/P	40 - 150
2191061	Glyphosate	66.2	72.1	P/P	40 - 140
2191061	Sucralose	71.6	61.6	P/P	40 - 150

Quality Assurance Report

Precision

Reference Method: EPA 8321B

Batch ID: P386256

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190698	2,4-D	3.11	Spike	P	0 - 30
2190698	Acetaminophen	8.48	Spike	P	0 - 30
2190698	Acetamiprid	8.42	Spike	P	0 - 30
2190698	Afidopyropen	0.549	Spike	P	0 - 30
2190698	Bentazon	13.0	Spike	P	0 - 30
2190698	Benzovindiflupyr	2.64	Spike	P	0 - 30
2190698	Carbamazepine	4.07	Spike	P	0 - 30
2190698	Clothianidin	9.84	Spike	P	0 - 30
2190698	Dinotefuran	6.54	Spike	P	0 - 30
2190698	Diuron	9.84	Spike	P	0 - 30
2190698	Fenuron	6.22	Spike	P	0 - 30
2190698	Fluridone	2.43	Spike	P	0 - 30
2190698	Hydrocodone	2.43	Spike	P	0 - 30
2190698	Ibuprofen	9.60	Spike	P	0 - 30
2190698	Imazapyr	29.1	Spike	P	0 - 30
2190698	Imidacloprid	28.4	Spike	P	0 - 30
2190698	Linuron	16.1	Spike	P	0 - 30
2190698	Mandestrobin	8.22	Spike	P	0 - 30
2190698	MCPP	7.98	Spike	P	0 - 30
2190698	Naproxen	16.9	Spike	P	0 - 30
2190698	Primidone	11.2	Spike	P	0 - 30
2190698	Pyraclostrobin	9.47	Spike	P	0 - 30
2190698	Thiamethoxam	7.73	Spike	P	0 - 30
2190698	Tolfenpyrad	11.3	Spike	P	0 - 30
2190698	Triclopyr	12.7	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P386257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2191061	Acesulfame K	3.46	Spike	P	0 - 30
2191061	AMPA	3.96	Spike	P	0 - 30
2191061	Endothall	9.46	Spike	P	0 - 30
2191061	Glufosinate	3.08	Spike	P	0 - 30
2191061	Glyphosate	7.21	Spike	P	0 - 30
2191061	Sucralose	12.3	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2191061
Field Sample ID: G4CE0181

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	102	P	30 - 160
EPA 8321B	Acetaminophen-d4	86.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	62.9	P	30 - 160
EPA 8321B	Diuron-d6	57.8	P	30 - 160
EPA 8321B	Endothall-d6	112	P	30 - 160
EPA 8321B	Endothall-d6	112	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	60.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	60.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	76.5	P	30 - 160
EPA 8321B	Primidone-d5	90.3	P	30 - 160
EPA 8321B	Sucralose-d6	62.5	P	30 - 160
EPA 8321B	Sucralose-d6	62.5	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A100557
Included Lab Sample IDs: 2191061

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	80.1	88.3	P/P	60 - 160
Glufosinate	92.4	89.8	P/P	60 - 160
Glyphosate	81.4	83.7	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A100586
Included Lab Sample IDs: 2191061

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	60.8	65.3	P/P	60 - 160
Endothall	110	107	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A100611
Included Lab Sample IDs: 2191061

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	98.2	106	P/P	50 - 150
Acetaminophen	108	110	P/P	60 - 160
Acetamiprid	118	114	P/P	50 - 150
Afidopyropen	97.2	103	P/P	50 - 150
Bentazon	106	115	P/P	50 - 160
Benzovindiflupyr	101	109	P/P	50 - 150
Carbamazepine	108	106	P/P	60 - 150
Clothianidin	103	115	P/P	60 - 150
Dinotefuran	98.5	108	P/P	50 - 150
Diuron	108	117	P/P	60 - 160
Fenuron	110	117	P/P	60 - 150
Fluridone	111	109	P/P	60 - 160
Hydrocodone	103	108	P/P	60 - 150
Ibuprofen	104	110	P/P	50 - 160
Imazapyr	97.3	79.1	P/P	50 - 150
Imidacloprid	91.5	106	P/P	60 - 150
Linuron	104	108	P/P	60 - 150
Mandestrobin	123	123	P/P	50 - 150
MCPP	96.7	101	P/P	50 - 150
Naproxen	105	112	P/P	50 - 160
Primidone	101	109	P/P	60 - 150
Pyraclostrobin	106	97.8	P/P	60 - 150
Thiamethoxam	91.9	109	P/P	50 - 150
Tolfenpyrad	99.2	93.6	P/P	60 - 150
Triclopyr	88.8	104	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A100617
Included Lab Sample IDs: 2191061

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	93.3	92.4	P/P	60 - 160

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	115	112	108		3.11
	Acesulfame K	54.6	34.9	36.1		3.46
	Acetaminophen	82.2	96.7	88.8		8.48
	Acetamiprid	71.7	80.6	74.1		8.42
	Afidopyropen	58.2	51.6	51.3		0.549
	AMPA	86.6	88.7	93.7		3.96
	Bentazon	61.8	54.6	48.0		13.0
	Benzovindiflupyr	67.6	70.2	72.0		2.64
	Carbamazepine	64.2	67.4	64.7		4.07
	Clothianidin	88.3	96.7	87.6		9.84
	Dinotefuran	94.8	106	98.9		6.54
	Diuron	54.8	59.5	53.9		9.84
	Endothall	103	100	110		9.46
	Fenuron	89.4	88.6	83.2		6.22
	Fluridone	73.6	85.5	83.5		2.43
	Glufosinate	91.9	84.4	87.0		3.08
	Glyphosate	73.9	66.2	72.1		7.21
	Hydrocodone	83.2	87.0	85.0		2.43
	Ibuprofen	75.1	79.6	72.4		9.60
	Imazapyr	70.3	102	71.9		29.1
	Imidacloprid	101	131	98.3		28.4
	Linuron	62.7	67.6	57.5		16.1
	Mandestrobin	78.2	82.4	75.9		8.22
	MCPP	123	121	112		7.98
	Naproxen	62.8	74.2	88.0		16.9
	Primidone	83.1	93.1	83.3		11.2
	Pyraclostrobin	66.4	75.3	68.5		9.47
	Sucralose	88.8	71.6	61.6		12.3
	Thiamethoxam	86.9	105	96.9		7.73
	Tolfenpyrad	43.2	47.0	42.0		11.3
	Triclopyr	107	110	96.8		12.7

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2191061
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2191061

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	08/19/2020	08/19/2020 16:00	Rebecca Ware	08/19/2020 17:47	Rebecca Ware	2191061
	08/19/2020	08/19/2020 16:00	Rebecca Ware	08/20/2020 18:59	Rebecca Ware	2191061
	08/19/2020	08/19/2020 16:00	Rebecca Ware	08/22/2020 00:18	Rebecca Ware	2191061
	08/19/2020	08/20/2020 09:00	Hoor Shaik	08/21/2020 13:00	Juyoung Kim	2191061