

Chemical Analysis Report

NE-DIST-2018-03-15-02

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

Event Description: **Alachua Co Sampling-March 18**

Request ID: **RQ-2018-03-12-17**

Customer: **NE-DIST**

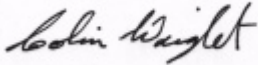
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 09-APR-2018 13:40



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 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: Tumblin Creek - W of US 441

Collection Date/Time: 03/14/2018 09:50

Field ID: G1NE0902

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1975220	EPA 8321B	2,4-D	0.0020	U	ug/L	P341599	
		Sucralose**	0.51		ug/L	P341600	
		Bentazon	8.0E-04	U	ug/L	P341599	
		MCP	0.0020	U	ug/L	P341599	
		Triclopyr**	0.0040	U	ug/L	P341599	
		Imidacloprid	0.080		ug/L	P341599	
		Diuron	0.0049	I	ug/L	P341599	
		Pyraclostrobin**	0.0020	U	ug/L	P341599	
		Primidone**	0.0040	U	ug/L	P341599	
		Linuron	0.0040	U	ug/L	P341599	
		Acetaminophen**	0.0080	U	ug/L	P341599	
		Fenuron	0.016	U	ug/L	P341599	MS
		Imazapyr**	0.011	I	ug/L	P341599	
		Carbamazepine**	4.2E-04	I	ug/L	P341599	
		Fluridone**	8.0E-04	U	ug/L	P341599	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform duplicate matrix spikes.

Sample Location: Bivens Arm Lake - West of US 441, and South of SW 16th Street

Collection Date/Time: 03/14/2018 10:40

Field ID: G1NE0904

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1975221	EPA 8321B	2,4-D	0.0020	U	ug/L	P341599	
		Sucralose**	0.23		ug/L	P341600	
		Bentazon	8.0E-04	U	ug/L	P341599	
		MCP	0.0020	U	ug/L	P341599	
		Triclopyr**	0.0040	U	ug/L	P341599	
		Imidacloprid	0.0020	UJ	ug/L	P341599	SUR
		Diuron	0.057	J	ug/L	P341599	SUR
		Pyraclostrobin**	0.0020	UJ	ug/L	P341599	SUR
		Primidone**	0.0040	UJ	ug/L	P341599	SUR
		Linuron	0.0040	UJ	ug/L	P341599	SUR
		Acetaminophen**	0.0080	UJ	ug/L	P341599	SUR
		Fenuron	0.016	UJ	ug/L	P341599	MS, SUR
		Imazapyr**	0.0073	IJ	ug/L	P341599	SUR
		Carbamazepine**	4.2E-04	IJ	ug/L	P341599	SUR
		Fluridone**	0.0060	J	ug/L	P341599	SUR

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform duplicate matrix spikes. Results confirmed in re-extraction.

Sample Location: Tumblin Creek-S of SW 5th Ave

Collection Date/Time: 03/14/2018 13:15

Field ID: G1NE0914

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1975222	EPA 8321B	2,4-D	0.0028	I	ug/L	P341599	

Field ID: G1NE0914

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1975222	EPA 8321B	Sucralose**	0.59		ug/L	P341600	
		Bentazon	8.0E-04	U	ug/L	P341599	
		MCP	0.0020	U	ug/L	P341599	
		Triclopyr**	0.0040	U	ug/L	P341599	
		Imidacloprid	0.071		ug/L	P341599	
		Diuron	0.0056	I	ug/L	P341599	
		Pyraclostrobin**	0.0020	U	ug/L	P341599	
		Primidone**	0.0040	U	ug/L	P341599	
		Linuron	0.0040	U	ug/L	P341599	
		Acetaminophen**	0.0080	U	ug/L	P341599	
		Fenuron	0.016	U	ug/L	P341599	MS
		Imazapyr**	0.0040	U	ug/L	P341599	
		Carbamazepine**	4.0E-04	U	ug/L	P341599	
		Fluridone**	8.0E-04	U	ug/L	P341599	

Ref. Method and Comment:
 EPA 8321B: Insufficient sample to perform duplicate matrix spikes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
 Batch ID: P341599

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
 Batch ID: P341600

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
 Batch ID: P341599

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P341599

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	64.3	52.8	P/P	40 - 150
Acetaminophen	91.2	85.6	P/P	30 - 150
Bentazon	63.8	58.2	P/P	30 - 150
Carbamazepine	82.0	76.4	P/P	40 - 150
Diuron	70.8	68.3	P/P	40 - 150
Fenuron	104	99.0	P/P	40 - 150
Fluridone	66.3	61.7	P/P	40 - 150
Imazapyr	71.8	70.5	P/P	40 - 150
Imidacloprid	86.0	84.7	P/P	40 - 160
Linuron	71.9	69.6	P/P	40 - 150
MCP	72.1	66.4	P/P	40 - 150
Primidone	98.5	90.9	P/P	40 - 150
Pyraclostrobin	66.8	66.3	P/P	40 - 150
Triclopyr	72.0	67.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P341600

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	99.4		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P341599

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1975050	Acetaminophen	112		P	30 - 150
1975050	Carbamazepine	84.4		P	40 - 150
1975050	Diuron	67.6		P	40 - 150
1975050	Fenuron	16.6		F	40 - 150
1975050	Fluridone	55.8		P	40 - 150
1975050	Imazapyr	43.9		P	40 - 150
1975050	Imidacloprid	137		P	40 - 160
1975050	Linuron	81.6		P	40 - 150
1975050	Primidone	100		P	40 - 150
1975050	Pyraclostrobin	63.1		P	40 - 150
1975319	2,4-D	70.4		P	40 - 150
1975319	Bentazon	51.2		P	30 - 150
1975319	MCP	63.8		P	40 - 150
1975319	Triclopyr	62.3		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P341600

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1974898	Sucralose	118	112	P/P	40 - 150

Quality Assurance Report Precision

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P341599

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	2,4-D	19.7	LCS	P	0 - 30
LFB	Acetaminophen	6.38	LCS	P	0 - 30
LFB	Bentazon	9.17	LCS	P	0 - 30
LFB	Carbamazepine	6.96	LCS	P	0 - 30
LFB	Diuron	3.54	LCS	P	0 - 30
LFB	Fenuron	5.33	LCS	P	0 - 30
LFB	Fluridone	7.19	LCS	P	0 - 30
LFB	Imazapyr	1.80	LCS	P	0 - 30
LFB	Imidacloprid	1.43	LCS	P	0 - 30
LFB	Linuron	3.28	LCS	P	0 - 30
LFB	MCP	8.15	LCS	P	0 - 30
LFB	Primidone	8.02	LCS	P	0 - 30
LFB	Pyraclostrobin	0.796	LCS	P	0 - 30
LFB	Triclopyr	6.30	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P341600

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1974898	Sucralose	3.50	Spike	P	0 - 30

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Surrogates

Lab Sample ID: 1975220
Field Sample ID: G1NE0902

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	53.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	135	P	30 - 160
EPA 8321B	Carbamazepine-d10	80.3	P	30 - 160
EPA 8321B	Diuron-d6	82.4	P	30 - 160
EPA 8321B	Primidone-d5	141	P	30 - 160
EPA 8321B	Sucralose-d6	94.8	P	40 - 160

Lab Sample ID: 1975221
Field Sample ID: G1NE0904

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	32.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	24.9	F	30 - 160
EPA 8321B	Carbamazepine-d10	16.9	F	30 - 160
EPA 8321B	Diuron-d6	12.2	F	30 - 160
EPA 8321B	Primidone-d5	22.5	F	30 - 160
EPA 8321B	Sucralose-d6	83.0	P	40 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1975222
Field Sample ID: G1NE0914

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	50.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	114	P	30 - 160
EPA 8321B	Carbamazepine-d10	90.6	P	30 - 160
EPA 8321B	Diuron-d6	68.3	P	30 - 160
EPA 8321B	Primidone-d5	104	P	30 - 160
EPA 8321B	Sucralose-d6	85.4	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A82710
Included Lab Sample IDs: 1975220, 1975221, 1975222

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	78.0	94.0	P/P	60 - 150
Sucralose	99.1	78.0	P/P	60 - 150

Reference Method: EPA 8321B
Run ID: A82852
Included Lab Sample IDs: 1975220, 1975221, 1975222

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	101	102	P/P	50 - 150
Acetaminophen	109	106	P/P	60 - 150
Bentazon	110	89.5	P/P	50 - 150
Carbamazepine	91.4	122	P/P	60 - 150
Diuron	116	116	P/P	60 - 150
Fenuron	107	99.6	P/P	60 - 150
Fluridone	126	121	P/P	60 - 160
Imazapyr	90.8	91.0	P/P	50 - 150
Imidacloprid	108	108	P/P	60 - 150
Linuron	119	120	P/P	60 - 150
MCPP	100	94.5	P/P	50 - 150
Primidone	111	114	P/P	60 - 150
Pyraclostrobin	121	116	P/P	60 - 150
Triclopyr	95.4	95.4	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
					LCS	SMP
EPA 8321B	2,4-D	64.3	52.8	70.4	19.7	
	Acetaminophen	91.2	85.6	112	6.38	
	Bentazon	63.8	58.2	51.2	9.17	
	Carbamazepine	82.0	76.4	84.4	6.96	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision SMP	MS
EPA 8321B	Diuron	70.8	68.3	67.6	3.54		
	Fenuron	104	99.0	16.6	5.33		
	Fluridone	66.3	61.7	55.8	7.19		
	Imazapyr	71.8	70.5	43.9	1.80		
	Imidacloprid	86.0	84.7	137	1.43		
	Linuron	71.9	69.6	81.6	3.28		
	MCPP	72.1	66.4	63.8	8.15		
	Primidone	98.5	90.9	100	8.02		
	Pyraclostrobin	66.8	66.3	63.1	0.796		
	Sucralose	99.4		118 112			3.50
	Triclopyr	72.0	67.6	62.3	6.30		

Reference Method Descriptions

Method / DoH Cert

EPA 8321B / E31780

EPA 8321B / E31780

Description

Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS

Water soluble organic compounds by HPLC/MS/MS

Associated Samples

1975220, 1975221, 1975222

1975220, 1975221, 1975222

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	03/15/2018	03/15/2018	Julie Michelle Frank	03/17/2018	Juyoung Kim	1975220, 1975221, 1975222
	03/15/2018	03/19/2018	Hoor Shaik	03/21/2018	Julie Michelle Frank	1975220, 1975221, 1975222