

Chemical Analysis Report

NE-DIST-2018-06-14-01

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

Event Description: **Alachua County Sampling**

Request ID: **RQ-2018-06-11-27**

Customer: **NE-DIST**

Project ID: **SMP**

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Date Certified: 11-JUL-2018 14:05



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: 06/13/2018 09:00

Field ID: G1NE0902

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2001001	EPA 8321B	2,4-D	0.0029	I	ug/L	P346885	
		Bentazon	8.0E-04	U	ug/L	P346885	
		MCP	0.0040	I	ug/L	P346885	
		Triclopyr**	0.0040	U	ug/L	P346885	
		Imidacloprid	0.054		ug/L	P346885	
		Diuron	0.029		ug/L	P346885	
		Pyraclostrobin**	0.0020	U	ug/L	P346885	
		Primidone**	0.0040	U	ug/L	P346885	
		Linuron	0.0040	U	ug/L	P346885	
		Acetaminophen**	0.0080	U	ug/L	P346885	
		Fenuron	0.016	U	ug/L	P346885	
		Imazapyr**	0.0089	I	ug/L	P346885	
		Carbamazepine**	4.7E-04	I	ug/L	P346885	
		Fluridone**	0.011		ug/L	P346885	
		Hydrocodone**	8.0E-04	U	ug/L	P346885	
		Sucralose**	0.15		ug/L	P347055	

Ref. Method and Comment:

EPA 8321B: MS accuracy for imazapyr could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: bivens arm lake- west of us 441 and south of sw 16th street

Collection Date/Time: 06/13/2018 09:30

Field ID: G1NE0904

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2001002	EPA 8321B	2,4-D	0.0089		ug/L	P346885	
		Bentazon	8.0E-04	U	ug/L	P346885	
		MCP	0.0020	U	ug/L	P346885	
		Triclopyr**	0.0040	U	ug/L	P346885	
		Imidacloprid	0.0052	I	ug/L	P346885	
		Diuron	0.21		ug/L	P346885	
		Pyraclostrobin**	0.0020	U	ug/L	P346885	
		Primidone**	0.0040	U	ug/L	P346885	
		Linuron	0.0040	U	ug/L	P346885	
		Acetaminophen**	0.0080	U	ug/L	P346885	
		Fenuron	0.033	I	ug/L	P346885	
		Imazapyr**	0.012	I	ug/L	P346885	
		Carbamazepine**	4.0E-04	U	ug/L	P346885	
		Fluridone**	0.0047		ug/L	P346885	
		Hydrocodone**	8.0E-04	U	ug/L	P346885	
		Sucralose**	0.010	U	ug/L	P347055	

Ref. Method and Comment:

EPA 8321B: MS accuracy for imazapyr could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: TUMBLIN CREEK-S OF SW 5TH AVE

Collection Date/Time: 06/13/2018 10:20

Field ID: G1NE0914

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2001003	EPA 8321B	2,4-D	0.0057	I	ug/L	P346885	
		Bentazon	8.0E-04	U	ug/L	P346885	
		MCP	0.032		ug/L	P346885	
		Triclopyr**	0.0040	U	ug/L	P346885	
		Imidacloprid	0.068		ug/L	P346885	
		Diuron	0.11		ug/L	P346885	
		Pyraclostrobin**	0.0020	U	ug/L	P346885	
		Primidone**	0.0040	U	ug/L	P346885	
		Linuron	0.0040	U	ug/L	P346885	
		Acetaminophen**	0.0080	U	ug/L	P346885	
		Fenuron	0.016	U	ug/L	P346885	
		Imazapyr**	0.0052	I	ug/L	P346885	
		Carbamazepine**	4.0E-04	U	ug/L	P346885	
		Fluridone**	4.0E-04	U	ug/L	P346885	
		Hydrocodone**	8.0E-04	U	ug/L	P346885	
		Sucralose**	0.25		ug/L	P347055	

Ref. Method and Comment:

EPA 8321B: MS accuracy for imazapyr could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: TURKEY CREEK UPSTREAM OF THE BRIDGE ON NW 74TH TERR. Collection Date/Time: 06/13/2018 11:45

Field ID: G1NE0915

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2001004	EPA 8321B	2,4-D	0.0020	I	ug/L	P346885	
		Bentazon	0.0074		ug/L	P346885	
		MCP	0.0020	U	ug/L	P346885	
		Triclopyr**	0.0040	U	ug/L	P346885	
		Imidacloprid	0.012		ug/L	P346885	
		Diuron	0.048		ug/L	P346885	
		Pyraclostrobin**	0.0020	U	ug/L	P346885	
		Primidone**	0.0040	U	ug/L	P346885	
		Linuron	0.0040	U	ug/L	P346885	
		Acetaminophen**	0.0080	U	ug/L	P346885	
		Fenuron	0.016	U	ug/L	P346885	
		Imazapyr**	0.033		ug/L	P346885	
		Carbamazepine**	4.0E-04	U	ug/L	P346885	
		Fluridone**	4.0E-04	U	ug/L	P346885	
		Hydrocodone**	8.0E-04	U	ug/L	P346885	
		Sucralose**	0.010	U	ug/L	P347055	

Ref. Method and Comment:

EPA 8321B: MS accuracy for imazapyr 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: P346885

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	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	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: P347055

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P346885

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	85.1		P	40 - 150
Acetaminophen	90.6		P	30 - 150
Bentazon	91.9		P	30 - 150
Carbamazepine	91.0		P	40 - 150
Diuron	82.8		P	40 - 150
Fenuron	95.8		P	40 - 150
Fluridone	83.9		P	40 - 150
Hydrocodone	95.2		P	40 - 150
Imazapyr	86.3		P	40 - 150
Imidacloprid	97.5		P	40 - 160
Linuron	68.8		P	40 - 150
MCPP	111		P	40 - 150
Primidone	88.4		P	40 - 150
Pyraclostrobin	81.1		P	40 - 150
Triclopyr	107		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P347055

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	63.0		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P346885

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2000875	2,4-D	89.4	87.0	P/P	40 - 150
2000875	Acetaminophen	70.8	68.6	P/P	30 - 150
2000875	Bentazon	71.8	70.2	P/P	30 - 150
2000875	Carbamazepine	66.7	60.7	P/P	40 - 150
2000875	Diuron	58.9	51.8	P/P	40 - 150
2000875	Fenuron	66.9	60.8	P/P	40 - 150
2000875	Fluridone	82.1	72.0	P/P	40 - 150
2000875	Hydrocodone	74.9	69.0	P/P	40 - 150
2000875	Imidacloprid	142	126	P/P	40 - 160
2000875	Linuron	65.2	51.7	P/P	40 - 150
2000875	MCP	117	117	P/P	40 - 150
2000875	Primidone	74.3	67.4	P/P	40 - 150
2000875	Pyraclostrobin	77.1	76.0	P/P	40 - 150
2000875	Triclopyr	117	115	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P347055

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2001001	Sucralose	72.3	82.7	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P346885

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2000875	2,4-D	2.19	Spike	P	0 - 30
2000875	Acetaminophen	3.21	Spike	P	0 - 30
2000875	Bentazon	2.27	Spike	P	0 - 30
2000875	Carbamazepine	9.38	Spike	P	0 - 30
2000875	Diuron	11.3	Spike	P	0 - 30
2000875	Fenuron	9.52	Spike	P	0 - 30
2000875	Fluridone	12.9	Spike	P	0 - 30
2000875	Hydrocodone	8.22	Spike	P	0 - 30
2000875	Imazapyr	7.04	Spike	P	0 - 30
2000875	Imidacloprid	12.5	Spike	P	0 - 30
2000875	Linuron	23.1	Spike	P	0 - 30
2000875	MCP	0.0204	Spike	P	0 - 30
2000875	Primidone	9.81	Spike	P	0 - 30
2000875	Pyraclostrobin	1.35	Spike	P	0 - 30
2000875	Triclopyr	1.85	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P347055

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2001001	Sucralose	12.5	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: 2001001
Field Sample ID: G1NE0902

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	85.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	67.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	68.7	P	30 - 160
EPA 8321B	Diuron-d6	56.7	P	30 - 160
EPA 8321B	Primidone-d5	77.7	P	30 - 160
EPA 8321B	Sucralose-d6	109	P	40 - 160

Lab Sample ID: 2001002
Field Sample ID: G1NE0904

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	90.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	30.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	43.9	P	30 - 160
EPA 8321B	Diuron-d6	33.3	P	30 - 160
EPA 8321B	Primidone-d5	62.2	P	30 - 160
EPA 8321B	Sucralose-d6	70.5	P	40 - 160

Lab Sample ID: 2001003
Field Sample ID: G1NE0914

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	101	P	30 - 160
EPA 8321B	Acetaminophen-d4	92.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	79.2	P	30 - 160
EPA 8321B	Diuron-d6	70.1	P	30 - 160
EPA 8321B	Primidone-d5	93.3	P	30 - 160
EPA 8321B	Sucralose-d6	95.4	P	40 - 160

Lab Sample ID: 2001004
Field Sample ID: G1NE0915

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	74.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	67.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	64.6	P	30 - 160
EPA 8321B	Diuron-d6	52.7	P	30 - 160
EPA 8321B	Primidone-d5	68.7	P	30 - 160
EPA 8321B	Sucralose-d6	71.6	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A84665

Included Lab Sample IDs: 2001001, 2001002, 2001003, 2001004

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	69.6	64.8	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A84988

Included Lab Sample IDs: 2001001, 2001002, 2001003, 2001004

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	120	125	P/P	60 - 160
Carbamazepine	104	109	P/P	60 - 160
Diuron	110	116	P/P	60 - 150
Fenuron	102	104	P/P	60 - 150
Fluridone	102	107	P/P	60 - 160
Hydrocodone	112	107	P/P	60 - 150
Imazapyr	98.7	91.2	P/P	50 - 150
Imidacloprid	96.4	102	P/P	60 - 150
Linuron	106	105	P/P	60 - 150
Primidone	96.2	93.7	P/P	60 - 150
Pyraclostrobin	109	108	P/P	60 - 150

Reference Method: EPA 8321B

Run ID: A85000

Included Lab Sample IDs: 2001001, 2001002, 2001003, 2001004

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	86.7	96.8	P/P	50 - 150
Bentazon	88.7	105	P/P	50 - 160
MCP	81.6	103	P/P	50 - 150
Triclopyr	83.3	101	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	MS
EPA 8321B	2,4-D	85.1	89.4	87.0			2.19
	Acetaminophen	90.6	70.8	68.6			3.21
	Bentazon	91.9	71.8	70.2			2.27
	Carbamazepine	91.0	66.7	60.7			9.38
	Diuron	82.8	58.9	51.8			11.3
	Fenuron	95.8	66.9	60.8			9.52
	Fluridone	83.9	82.1	72.0			12.9
	Hydrocodone	95.2	74.9	69.0			8.22
	Imazapyr	86.3					7.04
	Imidacloprid	97.5	142	126			12.5
	Linuron	68.8	65.2	51.7			23.1
	MCP	111	117	117			0.0204
	Primidone	88.4	74.3	67.4			9.81
	Pyraclostrobin	81.1	77.1	76.0			1.35
	Sucralose	63.0	72.3	82.7			12.5
	Triclopyr	107	117	115			1.85

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2001001, 2001002, 2001003, 2001004

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	06/14/2018	06/18/2018 11:00	Juyoung Kim	06/19/2018 00:03	Mohammad Ghaffari	2001001
	06/14/2018	06/18/2018 11:00	Juyoung Kim	06/19/2018 00:22	Mohammad Ghaffari	2001002
	06/14/2018	06/18/2018 11:00	Juyoung Kim	06/19/2018 00:41	Mohammad Ghaffari	2001003
	06/14/2018	06/18/2018 11:00	Juyoung Kim	06/19/2018 00:59	Mohammad Ghaffari	2001004
	06/14/2018	06/19/2018 10:00	Hoor Shaik	07/01/2018 11:20	Juyoung Kim	2001001
	06/14/2018	06/19/2018 10:00	Hoor Shaik	07/01/2018 11:55	Juyoung Kim	2001002
	06/14/2018	06/19/2018 10:00	Hoor Shaik	07/01/2018 12:30	Juyoung Kim	2001003
	06/14/2018	06/19/2018 10:00	Hoor Shaik	07/01/2018 13:04	Juyoung Kim	2001004
	06/14/2018	06/19/2018 10:00	Hoor Shaik	07/01/2018 19:08	Juyoung Kim	2001001
	06/14/2018	06/19/2018 10:00	Hoor Shaik	07/01/2018 19:42	Juyoung Kim	2001002
	06/14/2018	06/19/2018 10:00	Hoor Shaik	07/01/2018 20:17	Juyoung Kim	2001003
	06/14/2018	06/19/2018 10:00	Hoor Shaik	07/01/2018 20:52	Juyoung Kim	2001004