

Chemical Analysis Report

NW-DIST-2019-12-04-03

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

Event Description: **Pensacola monthly**
Request ID: **RQ-2019-12-02-57**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 18-DEC-2019 09:25

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first few letters.

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: Carpenter Creek upstream of 9th Avenue

Collection Date/Time: 12/02/2019 10:24

Field ID: G4NW0415

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2140493	EPA 8321B	2,4-D	0.0060	I	ug/L	P375248	
		Acesulfame K**	0.10	U	ug/L	P375209	
		AMPA**	0.10	U	ug/L	P375209	
		Sucralose**	0.20		ug/L	P375209	MS
		Acetaminophen**	0.0080	U	ug/L	P375248	
		Acetamiprid**	0.0020	U	ug/L	P375248	
		Endothall**	0.25	U	ug/L	P375209	
		Glufosinate**	0.10	U	ug/L	P375209	
		Glyphosate**	0.10	U	ug/L	P375209	
		Afidopyropen**	0.0020	UJ	ug/L	P375248	
		Bentazon	8.0E-04	U	ug/L	P375248	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P375248	
		Carbamazepine**	0.0027	I	ug/L	P375248	
		Clothianidin**	0.0020	U	ug/L	P375248	
		Dinotefuran**	0.0020	U	ug/L	P375248	
		Diuron	0.0020	U	ug/L	P375248	
		Fenuron	0.016	U	ug/L	P375248	
		Fluridone**	8.0E-04	U	ug/L	P375248	
		Imazapyr**	0.0076	I	ug/L	P375248	
		Hydrocodone**	0.0020	U	ug/L	P375248	
		Ibuprofen**	0.020	U	ug/L	P375248	
		Imidacloprid	0.040		ug/L	P375248	
		Linuron	0.0040	U	ug/L	P375248	
		Mandestrobin**	0.0020	UJ	ug/L	P375248	
		MCPP	0.0020	U	ug/L	P375248	
		Naproxen**	0.0080	U	ug/L	P375248	
		Primidone**	0.0040	U	ug/L	P375248	
		Pyraclostrobin**	0.0020	U	ug/L	P375248	
		Thiamethoxam**	0.0020	U	ug/L	P375248	
		Tolfenpyrad**	0.0020	U	ug/L	P375248	
		Triclopyr**	0.0040	U	ug/L	P375248	

Ref. Method and Comment:

EPA 8321B: J - second source check standards for some analytes were not available for analysis.

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P375209

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: P375248

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: P375209

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	105		P	40 - 150
AMPA	113		P	40 - 150
Endothall	81.0		P	40 - 150
Glufosinate	125		P	40 - 150
Glyphosate	124		P	40 - 140
Sucralose	90.1		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P375248

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	134		P	40 - 160
Acetaminophen	86.8		P	30 - 160
Acetamiprid	99.0		P	40 - 160
Afidopyropen	89.2		P	40 - 160
Bentazon	91.3		P	30 - 160
Benzovindiflupyr	82.1		P	40 - 160
Carbamazepine	95.2		P	40 - 160
Clothianidin	99.6		P	40 - 160
Dinotefuran	84.8		P	40 - 160
Diuron	78.7		P	40 - 160
Fenuron	99.8		P	40 - 160
Fluridone	97.2		P	40 - 160
Hydrocodone	87.3		P	40 - 160
Ibuprofen	80.7		P	30 - 160
Imazapyr	104		P	40 - 160
Imidacloprid	105		P	40 - 160
Linuron	69.1		P	40 - 160
Mandestrobin	90.2		P	40 - 160
MCPP	139		P	40 - 160
Naproxen	81.3		P	40 - 160
Primidone	83.9		P	40 - 160
Pyraclostrobin	81.1		P	30 - 160
Thiamethoxam	107		P	40 - 160
Tolfenpyrad	56.8		P	40 - 160
Triclopyr	88.6		P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P375209

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140044	Acesulfame K	145	140	P/P	40 - 150
2140044	AMPA	141	115	P/P	40 - 150
2140044	Endothall	97.2	108	P/P	40 - 150
2140044	Glufosinate	135	124	P/P	40 - 150
2140044	Glyphosate	82.7	72.3	P/P	40 - 140
2140044	Sucralose	16.1	17.2	F/F	40 - 150

Reference Method: EPA 8321B
 Batch ID: P375248

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140614	2,4-D	121	131	P/P	40 - 160
2140614	Acetaminophen	98.5	92.4	P/P	30 - 160
2140614	Acetamiprid	78.2	96.0	P/P	40 - 160
2140614	Afidopyropen	76.9	93.7	P/P	40 - 160
2140614	Bentazon	68.7	70.1	P/P	30 - 160
2140614	Benzovindiflupyr	85.3	79.4	P/P	40 - 160
2140614	Carbamazepine	92.4	95.4	P/P	40 - 160
2140614	Clothianidin	71.6	88.7	P/P	40 - 160
2140614	Dinotefuran	88.3	94.3	P/P	40 - 160
2140614	Diuron	67.8	71.8	P/P	40 - 160
2140614	Fenuron	87.4	91.3	P/P	40 - 160
2140614	Fluridone	90.3	93.9	P/P	40 - 160
2140614	Hydrocodone	92.9	95.3	P/P	40 - 160
2140614	Ibuprofen	75.4	80.8	P/P	30 - 160
2140614	Imazapyr	110	126	P/P	40 - 160
2140614	Imidacloprid	141	134	P/P	40 - 160
2140614	Linuron	63.6	62.2	P/P	40 - 160
2140614	Mandestrobin	85.9	84.4	P/P	40 - 160
2140614	MCP	130	142	P/P	40 - 160
2140614	Naproxen	64.5	72.3	P/P	40 - 160
2140614	Primidone	82.1	83.0	P/P	40 - 160
2140614	Pyraclostrobin	89.4	86.7	P/P	30 - 160
2140614	Thiamethoxam	128	139	P/P	40 - 160
2140614	Tolfenpyrad	55.5	55.5	P/P	40 - 160
2140614	Triclopyr	99.8	107	P/P	30 - 160

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P375209

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140044	Acesulfame K	3.77	Spike	P	0 - 30
2140044	AMPA	15.2	Spike	P	0 - 30
2140044	Endothall	10.5	Spike	P	0 - 30
2140044	Glufosinate	8.38	Spike	P	0 - 30
2140044	Glyphosate	3.84	Spike	P	0 - 30
2140044	Sucralose	4.29	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P375248

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140614	2,4-D	7.95	Spike	P	0 - 30
2140614	Acetaminophen	6.47	Spike	P	0 - 30
2140614	Acetamiprid	20.4	Spike	P	0 - 30
2140614	Afidopyropen	19.7	Spike	P	0 - 30
2140614	Bentazon	1.98	Spike	P	0 - 30
2140614	Benzovindiflupyr	7.20	Spike	P	0 - 30
2140614	Carbamazepine	3.21	Spike	P	0 - 30
2140614	Clothianidin	21.3	Spike	P	0 - 30
2140614	Dinotefuran	6.54	Spike	P	0 - 30
2140614	Diuron	5.69	Spike	P	0 - 30
2140614	Fenuron	4.41	Spike	P	0 - 30
2140614	Fluridone	3.91	Spike	P	0 - 30
2140614	Hydrocodone	2.51	Spike	P	0 - 30
2140614	Ibuprofen	6.97	Spike	P	0 - 30
2140614	Imazapyr	13.2	Spike	P	0 - 30
2140614	Imidacloprid	4.93	Spike	P	0 - 30
2140614	Linuron	2.26	Spike	P	0 - 30
2140614	Mandestrobin	1.73	Spike	P	0 - 30
2140614	MCP	8.61	Spike	P	0 - 30
2140614	Naproxen	11.4	Spike	P	0 - 30
2140614	Primidone	1.04	Spike	P	0 - 30
2140614	Pyraclostrobin	3.01	Spike	P	0 - 30
2140614	Thiamethoxam	7.83	Spike	P	0 - 30
2140614	Tolfenpyrad	0.0339	Spike	P	0 - 30
2140614	Triclopyr	6.73	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2140493

Field Sample ID: G4NW0415

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	159	P	30 - 160
EPA 8321B	Acetaminophen-d4	77.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	88.3	P	30 - 160
EPA 8321B	Diuron-d6	84.7	P	30 - 160
EPA 8321B	Endothall-d6	110	P	30 - 160
EPA 8321B	Endothall-d6	110	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	113	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	113	P	30 - 160
EPA 8321B	Ibuprofen-d3	105	P	30 - 160
EPA 8321B	Primidone-d5	108	P	30 - 160
EPA 8321B	Sucralose-d6	69.2	P	30 - 160
EPA 8321B	Sucralose-d6	69.2	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A96195
 Included Lab Sample IDs: 2140493

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	135	112	P/P	60 - 160
Glufosinate	112	114	P/P	60 - 160
Glyphosate	124	129	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A96196
 Included Lab Sample IDs: 2140493

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	105	98.7	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A96215
 Included Lab Sample IDs: 2140493

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	103	83.0	P/P	60 - 160
Endothall	95.2	95.5	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A96343
 Included Lab Sample IDs: 2140493

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	148	98.0	P/P	50 - 150
Acetaminophen	129	105	P/P	60 - 160
Acetamiprid	108	98.4	P/P	50 - 150
Afidopyropen	115	106	P/P	50 - 150
Bentazon	74.9	78.6	P/P	50 - 160
Benzovindiflupyr	106	101	P/P	50 - 150
Carbamazepine	102	95.5	P/P	60 - 150
Clothianidin	118	115	P/P	60 - 150
Dinotefuran	102	101	P/P	50 - 150
Diuron	102	85.2	P/P	60 - 150
Fenuron	107	100	P/P	60 - 150
Fluridone	95.3	91.2	P/P	60 - 160
Hydrocodone	103	91.9	P/P	60 - 150
Ibuprofen	103	102	P/P	50 - 160
Imazapyr	107	97.6	P/P	50 - 150
Imidacloprid	111	94.4	P/P	60 - 150
Linuron	97.9	91.5	P/P	60 - 150
Mandestrobin	103	98.6	P/P	50 - 150
MCPP	104	95.5	P/P	50 - 150
Naproxen	80.0	101	P/P	50 - 160
Primidone	98.8	92.4	P/P	60 - 150
Pyraclostrobin	110	91.1	P/P	60 - 150
Thiamethoxam	119	121	P/P	50 - 150
Tolfenpyrad	109	104	P/P	60 - 150
Triclopyr	107	104	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	134	121	131		7.95
	Acesulfame K	105	145	140		3.77
	Acetaminophen	86.8	98.5	92.4		6.47
	Acetamiprid	99.0	78.2	96.0		20.4
	Afidopyropen	89.2	76.9	93.7		19.7
	AMPA	113	141	115		15.2
	Bentazon	91.3	68.7	70.1		1.98
	Benzovindiflupyr	82.1	85.3	79.4		7.20
	Carbamazepine	95.2	92.4	95.4		3.21
	Clothianidin	99.6	71.6	88.7		21.3
	Dinotefuran	84.8	88.3	94.3		6.54
	Diuron	78.7	67.8	71.8		5.69
	Endothall	81.0	97.2	108		10.5
	Fenuron	99.8	87.4	91.3		4.41
	Fluridone	97.2	90.3	93.9		3.91
	Glufosinate	125	135	124		8.38
	Glyphosate	124	82.7	72.3		3.84
	Hydrocodone	87.3	92.9	95.3		2.51
	Ibuprofen	80.7	75.4	80.8		6.97
	Imazapyr	104	110	126		13.2
	Imidacloprid	105	141	134		4.93
	Linuron	69.1	63.6	62.2		2.26
	Mandestrobin	90.2	85.9	84.4		1.73
	MCPP	139	130	142		8.61
	Naproxen	81.3	64.5	72.3		11.4
	Primidone	83.9	82.1	83.0		1.04
	Pyraclostrobin	81.1	89.4	86.7		3.01
	Sucralose	90.1	16.1	17.2		4.29
	Thiamethoxam	107	128	139		7.83
	Tolfenpyrad	56.8	55.5	55.5		0.0339
	Triclopyr	88.6	99.8	107		6.73

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

2140493
2140493

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	12/04/2019	12/05/2019 11:00	Rebecca Ware	12/05/2019 19:26	Rebecca Ware	2140493
	12/04/2019	12/05/2019 11:00	Rebecca Ware	12/06/2019 19:31	Rebecca Ware	2140493
	12/04/2019	12/05/2019 11:00	Rebecca Ware	12/07/2019 17:56	Rebecca Ware	2140493
	12/04/2019	12/06/2019 14:00	Hoor Shaik	12/12/2019 01:44	Juyoung Kim	2140493