

Chemical Analysis Report

SO-DIST-2020-05-22-01

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

Event Description: **2020 SMP : Pollywog**
Request ID: **RQ-2020-05-18-39**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 05-JUN-2020 12:07

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 name.

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: Pollywog Creek @ SR 78

Collection Date/Time: 05/21/2020 09:00

Field ID: G3SD0098

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2173198	EPA 8321B	2,4-D	0.0020	U	ug/L	P382504	
		Acesulfame K**	0.21	I J	ug/L	P382532	MS
		AMPA**	0.10	U	ug/L	P382532	
		Sucralose**	0.48		ug/L	P382532	
		Acetaminophen**	0.0080	U	ug/L	P382504	
		Acetamiprid**	0.0020	U	ug/L	P382504	
		Endothall**	0.25	U	ug/L	P382532	
		Glufosinate**	0.10	U	ug/L	P382532	
		Glyphosate**	0.10	UJ	ug/L	P382532	MS
		Afidopyropen**	0.0020	U	ug/L	P382504	
		Bentazon	8.0E-04	U	ug/L	P382504	
		Benzovindiflupyr**	0.0020	U	ug/L	P382504	
		Carbamazepine**	0.0070		ug/L	P382504	
		Clothianidin**	0.0020	U	ug/L	P382504	
		Dinotefuran**	0.0020	U	ug/L	P382504	
		Diuron	0.0020	U	ug/L	P382504	
		Fenuron	0.016	U	ug/L	P382504	
		Fluridone**	8.0E-04	U	ug/L	P382504	
		Imazapyr**	0.0043	I	ug/L	P382504	
		Hydrocodone**	0.0020	U	ug/L	P382504	
		Ibuprofen**	0.020	U	ug/L	P382504	
		Imidacloprid	0.0020	U	ug/L	P382504	
		Linuron	0.0040	U	ug/L	P382504	
		Mandestrobin**	0.0020	U	ug/L	P382504	
		MCPP	0.0020	U	ug/L	P382504	
		Naproxen**	0.0080	U	ug/L	P382504	
		Primidone**	0.0040	U	ug/L	P382504	
		Pyraclostrobin**	0.0020	U	ug/L	P382504	
		Thiamethoxam**	0.0020	U	ug/L	P382504	
		Tolfenpyrad**	0.0020	U	ug/L	P382504	
		Triclopyr**	0.0040	U	ug/L	P382504	

Ref. Method and Comment:

EPA 8321B: MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample.

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: P382504

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

Reference Method: EPA 8321B
Batch ID: P382532

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: P382504

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	134		P	30 - 160
Acetaminophen	97.0		P	30 - 160
Acetamiprid	94.2		P	30 - 160
Afidopyropen	86.2		P	30 - 160
Bentazon	69.6		P	30 - 160
Benzovindiflupyr	85.0		P	30 - 160
Carbamazepine	76.5		P	30 - 160
Clothianidin	92.5		P	30 - 160
Dinotefuran	90.3		P	30 - 160
Diuron	63.0		P	30 - 160
Fenuron	97.8		P	30 - 160
Fluridone	92.5		P	30 - 160
Hydrocodone	85.5		P	30 - 160
Ibuprofen	83.0		P	30 - 160
Imazapyr	87.8		P	30 - 160
Imidacloprid	100		P	30 - 160
Linuron	65.3		P	30 - 160
Mandestrobin	91.5		P	30 - 160
MCPP	135		P	30 - 160
Naproxen	83.1		P	30 - 160
Primidone	91.1		P	30 - 160
Pyraclostrobin	91.8		P	30 - 160
Thiamethoxam	82.3		P	30 - 160
Tolfenpyrad	63.2		P	30 - 160
Triclopyr	117		P	30 - 160

Reference Method: EPA 8321B
 Batch ID: P382532

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	76.4		P	40 - 150
AMPA	97.1		P	40 - 150
Endothall	82.9		P	40 - 150
Glufosinate	90.9		P	40 - 150
Glyphosate	127		P	40 - 140
Sucralose	97.8		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P382504

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2172568	Acetaminophen	104	111	P/P	30 - 160
2172568	Acetamiprid	79.4	87.7	P/P	30 - 160
2172568	Afidopyropen	74.8	82.1	P/P	30 - 160
2172568	Bentazon	58.5	61.6	P/P	30 - 160
2172568	Benzovindiflupyr	68.3	76.4	P/P	30 - 160
2172568	Carbamazepine	61.5	75.2	P/P	30 - 160
2172568	Clothianidin	91.5	111	P/P	30 - 160
2172568	Dinotefuran	96.7	101	P/P	30 - 160
2172568	Diuron	50.0	60.5	P/P	30 - 160
2172568	Fenuron	75.5	81.2	P/P	30 - 160
2172568	Fluridone	86.8	92.3	P/P	30 - 160
2172568	Hydrocodone	71.5	76.4	P/P	30 - 160
2172568	Ibuprofen	74.3	76.2	P/P	30 - 160
2172568	Imazapyr	133	135	P/P	30 - 160
2172568	Imidacloprid	145	154	P/P	30 - 160
2172568	Linuron	56.6	68.0	P/P	30 - 160
2172568	Mandestrobin	85.7	87.0	P/P	30 - 160
2172568	MCCP	152	142	P/P	30 - 160
2172568	Naproxen	80.1	84.6	P/P	30 - 160
2172568	Primidone	97.2	101	P/P	30 - 160
2172568	Pyraclostrobin	80.3	81.2	P/P	30 - 160
2172568	Thiamethoxam	89.5	100	P/P	30 - 160
2172568	Tolfenpyrad	55.5	59.4	P/P	30 - 160
2172568	Triclopyr	134	120	P/P	30 - 160

Reference Method: EPA 8321B
 Batch ID: P382532

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2173198	Acesulfame K	33.8	33.2	F/F	40 - 150
2173198	AMPA	113	117	P/P	40 - 150
2173198	Endothall	82.6	80.7	P/P	40 - 150
2173198	Glufosinate	85.3	83.3	P/P	40 - 150
2173198	Glyphosate	144	139	F/P	40 - 140
2173198	Sucralose	79.0	78.6	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P382504

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2172568	2,4-D	12.4	Spike	P	0 - 30
2172568	Acetaminophen	7.13	Spike	P	0 - 30
2172568	Acetamiprid	9.88	Spike	P	0 - 30
2172568	Afidopyropen	9.21	Spike	P	0 - 30
2172568	Bentazon	5.27	Spike	P	0 - 30
2172568	Benzovindiflupyr	11.1	Spike	P	0 - 30
2172568	Carbamazepine	20.0	Spike	P	0 - 30
2172568	Clothianidin	18.9	Spike	P	0 - 30
2172568	Dinotefuran	4.63	Spike	P	0 - 30
2172568	Diuron	19.2	Spike	P	0 - 30
2172568	Fenuron	7.32	Spike	P	0 - 30
2172568	Fluridone	6.18	Spike	P	0 - 30
2172568	Hydrocodone	6.59	Spike	P	0 - 30
2172568	Ibuprofen	2.57	Spike	P	0 - 30
2172568	Imazapyr	1.31	Spike	P	0 - 30
2172568	Imidacloprid	6.09	Spike	P	0 - 30
2172568	Linuron	18.3	Spike	P	0 - 30
2172568	Mandestrobin	1.49	Spike	P	0 - 30
2172568	MCPP	7.24	Spike	P	0 - 30
2172568	Naproxen	5.46	Spike	P	0 - 30
2172568	Primidone	3.62	Spike	P	0 - 30
2172568	Pyraclostrobin	1.09	Spike	P	0 - 30
2172568	Thiamethoxam	11.0	Spike	P	0 - 30
2172568	Tolfenpyrad	6.88	Spike	P	0 - 30
2172568	Triclopyr	10.9	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P382532

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2173198	Acesulfame K	1.45	Spike	P	0 - 30
2173198	AMPA	3.50	Spike	P	0 - 30
2173198	Endothall	2.34	Spike	P	0 - 30
2173198	Glufosinate	2.35	Spike	P	0 - 30
2173198	Glyphosate	3.06	Spike	P	0 - 30
2173198	Sucralose	0.423	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2173198
Field Sample ID: G3SD0098

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	114	P	30 - 160
EPA 8321B	Acetaminophen-d4	92.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	55.1	P	30 - 160
EPA 8321B	Diuron-d6	46.6	P	30 - 160
EPA 8321B	Endothall-d6	119	P	30 - 160
EPA 8321B	Endothall-d6	119	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	151	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	151	P	30 - 160
EPA 8321B	Ibuprofen-d3	79.9	P	30 - 160
EPA 8321B	Primidone-d5	86.6	P	30 - 160
EPA 8321B	Sucralose-d6	78.0	P	30 - 160
EPA 8321B	Sucralose-d6	78.0	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A99064
Included Lab Sample IDs: 2173198

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	86.8	84.1	P/P	30 - 200
Endothall	82.2	87.8	P/P	30 - 200

Reference Method: EPA 8321B
Run ID: A99065
Included Lab Sample IDs: 2173198

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	71.8	66.1	P/P	30 - 200
Glufosinate	103	104	P/P	30 - 200
Glyphosate	133	151	P/P	30 - 200

Reference Method: EPA 8321B
Run ID: A99098
Included Lab Sample IDs: 2173198

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	97.4	106	P/P	50 - 150
Acetaminophen	112	111	P/P	60 - 160
Acetamiprid	107	109	P/P	50 - 150
Afidopyropen	107	104	P/P	50 - 150
Bentazon	116	116	P/P	50 - 160
Benzovindiflupyr	104	104	P/P	50 - 150
Carbamazepine	114	121	P/P	60 - 150
Clothianidin	116	110	P/P	60 - 150
Dinotefuran	107	99.4	P/P	50 - 150
Diuron	113	116	P/P	60 - 160
Fenuron	120	121	P/P	60 - 150
Fluridone	102	108	P/P	60 - 160
Hydrocodone	118	113	P/P	60 - 150
Ibuprofen	92.1	127	P/P	50 - 160
Imazapyr	106	104	P/P	50 - 150
Imidacloprid	106	113	P/P	60 - 150
Linuron	97.8	103	P/P	60 - 150
Mandestrobin	117	113	P/P	50 - 150
MCPP	109	84.8	P/P	50 - 150
Naproxen	110	121	P/P	50 - 160
Primidone	106	102	P/P	60 - 150
Pyraclostrobin	114	115	P/P	60 - 150
Thiamethoxam	113	111	P/P	50 - 150
Tolfenpyrad	114	115	P/P	60 - 150
Triclopyr	80.8	107	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A99164
Included Lab Sample IDs: 2173198

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	96.7	95.8	P/P	30 - 200

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				12.4
	Acesulfame K	76.4	33.8	33.2		1.45
	Acetaminophen	97.0	104	111		7.13
	Acetamiprid	94.2	79.4	87.7		9.88
	Afidopyropen	86.2	74.8	82.1		9.21
	AMPA	97.1	113	117		3.50
	Bentazon	69.6	58.5	61.6		5.27
	Benzovindiflupyr	85.0	68.3	76.4		11.1
	Carbamazepine	76.5	61.5	75.2		20.0
	Clothianidin	92.5	91.5	111		18.9
	Dinotefuran	90.3	96.7	101		4.63
	Diuron	63.0	50.0	60.5		19.2
	Endothall	82.9	82.6	80.7		2.34
	Fenuron	97.8	75.5	81.2		7.32
	Fluridone	92.5	86.8	92.3		6.18
	Glufosinate	90.9	85.3	83.3		2.35
	Glyphosate	127	144	139		3.06
	Hydrocodone	85.5	71.5	76.4		6.59
	Ibuprofen	83.0	74.3	76.2		2.57
	Imazapyr	87.8	133	135		1.31
	Imidacloprid	100	145	154		6.09
	Linuron	65.3	56.6	68.0		18.3
	Mandestrobin	91.5	85.7	87.0		1.49
	MCPP	135	152	142		7.24
	Naproxen	83.1	80.1	84.6		5.46
	Primidone	91.1	97.2	101		3.62
	Pyraclostrobin	91.8	80.3	81.2		1.09
	Sucralose	97.8	79.0	78.6		0.423
	Thiamethoxam	82.3	89.5	100		11.0
	Tolfenpyrad	63.2	55.5	59.4		6.88
	Triclopyr	117	134	120		10.9

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2173198
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2173198

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	05/22/2020	05/26/2020 09:00	Hoor Shaik	05/28/2020 06:16	Juyoung Kim	2173198
	05/22/2020	05/26/2020 10:30	Rebecca Ware	05/26/2020 11:45	Rebecca Ware	2173198
	05/22/2020	05/26/2020 10:30	Rebecca Ware	05/26/2020 14:10	Rebecca Ware	2173198
	05/22/2020	05/26/2020 10:30	Rebecca Ware	06/03/2020 20:10	Rebecca Ware	2173198