

Chemical Analysis Report

SW-DIST-2022-09-14-02

Florida DEP Laboratory
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DOH Accreditation E31780

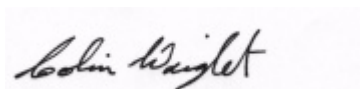
Event Description: **Big Slough**
Request ID: **RQ-2022-09-12-53**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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13051 N. Telecom Parkway
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Certified by: Colin Wright, Program Administrator

Date Certified: 26-SEP-2022 11:07



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: Big Slough Canal (Potable Portion) @ Route 72 Collection Date/Time: 09/13/2022 11:25

Field ID: G3SW0115

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2356447	EPA 8321B	2,4-D	0.025		ug/L	P419624	
		Acesulfame K	0.10	U	ug/L	P419485	
		2,4,5-T	0.0040	U	ug/L	P419624	
		AMPA	0.45		ug/L	P419485	
		Acetaminophen	0.0080	U	ug/L	P419624	
		Acetamiprid	0.0020	U	ug/L	P419624	
		Endothall	0.25	U	ug/L	P419485	MS
		Glufosinate	0.10	U	ug/L	P419485	
		Glyphosate	0.82		ug/L	P419485	
		Afidopyropen	0.0020	U	ug/L	P419624	
		Sucralose	0.014	I	ug/L	P419485	
		Bentazon	8.0E-04	U	ug/L	P419624	MS
		Benzovindiflupyr	0.0022	I	ug/L	P419624	
		Carbamazepine	8.0E-04	U	ug/L	P419624	
		Clothianidin	0.0020	U	ug/L	P419624	
		Dinotefuran	0.016		ug/L	P419624	
		Diuron	0.0020	U	ug/L	P419624	
		Fenuron	0.016	U	ug/L	P419624	
		Fluridone	8.0E-04	U	ug/L	P419624	
		Imazapyr	0.014	I	ug/L	P419624	MS
		Hydrocodone	0.0020	U	ug/L	P419624	
		Ibuprofen	0.020	U	ug/L	P419624	
		Imidacloprid	0.015		ug/L	P419624	
		Linuron	0.0040	U	ug/L	P419624	
		Mandestrobin	0.0020	U	ug/L	P419624	
		MCPP	0.0020	U	ug/L	P419624	MS
		Naproxen	0.0080	U	ug/L	P419624	
		Primidone	0.0040	U	ug/L	P419624	
		Pyraclostrobin	0.0020	U	ug/L	P419624	
		Silvex	0.0040	U	ug/L	P419624	
		Thiamethoxam	0.0020	U	ug/L	P419624	MS
		Tolfenpyrad	0.0020	U	ug/L	P419624	
		Triclopyr	0.0040	U	ug/L	P419624	

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.

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P419485

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: P419624

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	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
Silvex	0.0040	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: P419485

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	115		P	40 - 150
AMPA	106		P	40 - 150
Endothall	115		P	40 - 150
Glufosinate	107		P	40 - 150
Glyphosate	105		P	40 - 150
Sucralose	106		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P419624

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	86.4		P	30 - 160
2,4,5-T	88.3		P	30 - 160
Acetaminophen	93.4		P	30 - 150
Acetamiprid	89.1		P	30 - 160
Afidopyropen	70.7		P	30 - 160
Bentazon	111		P	30 - 150
Benzovindiflupyr	87.3		P	30 - 160
Carbamazepine	98.4		P	30 - 160
Clothianidin	90.6		P	30 - 160
Dinotefuran	95.6		P	30 - 160
Diuron	76.5		P	30 - 160
Fenuron	101		P	30 - 160
Fluridone	99.2		P	30 - 160
Hydrocodone	54.7		P	30 - 160
Ibuprofen	52.2		P	30 - 160
Imazapyr	89.9		P	30 - 160
Imidacloprid	93.6		P	30 - 160
Linuron	88.7		P	30 - 160
Mandestrobin	96.2		P	30 - 160
MCPP	88.1		P	30 - 160
Naproxen	73.1		P	30 - 160
Primidone	79.5		P	30 - 160
Pyraclostrobin	86.0		P	30 - 160
Silvex	92.4		P	30 - 160
Thiamethoxam	97.2		P	30 - 160
Tolfenpyrad	76.5		P	30 - 160
Triclopyr	86.6		P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P419485

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2355958	Acesulfame K	88.7	87.5	P/P	40 - 150
2355958	AMPA	85.8	82.1	P/P	40 - 150
2355958	Endothall	188	189	F/F	40 - 150
2355958	Glufosinate	73.2	82.9	P/P	40 - 150
2355958	Glyphosate	105	126	P/P	40 - 150
2355958	Sucralose	102	100	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P419624

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356270	2,4,5-T	149	137	P/P	30 - 160
2356270	Acetaminophen	135	138	P/P	30 - 150
2356270	Acetamiprid	104	102	P/P	30 - 160
2356270	Afidopyropen	132	130	P/P	30 - 160
2356270	Bentazon	147	152	P/F	30 - 150
2356270	Benzovindiflupyr	103	109	P/P	30 - 160
2356270	Carbamazepine	101	97.2	P/P	30 - 160
2356270	Clothianidin	123	141	P/P	30 - 160
2356270	Dinotefuran	137	141	P/P	30 - 160
2356270	Diuron	70.0	61.4	P/P	30 - 160
2356270	Fenuron	124	125	P/P	30 - 160
2356270	Fluridone	129	137	P/P	30 - 160
2356270	Hydrocodone	80.7	79.0	P/P	30 - 160
2356270	Ibuprofen	90.1	101	P/P	30 - 160
2356270	Imazapyr	186	196	F/F	30 - 160
2356270	Imidacloprid	153	144	P/P	30 - 160
2356270	Linuron	105	109	P/P	30 - 160
2356270	Mandestrobin	128	125	P/P	30 - 160
2356270	MCP	172	180	F/F	30 - 160
2356270	Naproxen	128	106	P/P	30 - 160
2356270	Primidone	143	150	P/P	30 - 160
2356270	Pyraclostrobin	125	126	P/P	30 - 160
2356270	Silvex	151	150	P/P	30 - 160
2356270	Thiamethoxam	188	189	F/F	30 - 160
2356270	Tolfenpyrad	105	101	P/P	30 - 160
2356270	Triclopyr	145	144	P/P	30 - 160

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P419485

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2355958	Acesulfame K	1.43	Spike	P	0 - 30
2355958	AMPA	2.59	Spike	P	0 - 30
2355958	Endothall	0.272	Spike	P	0 - 30
2355958	Glufosinate	12.5	Spike	P	0 - 30
2355958	Glyphosate	8.83	Spike	P	0 - 30
2355958	Sucralose	1.46	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P419624

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356270	2,4-D	9.15	Spike	P	0 - 30
2356270	2,4,5-T	8.92	Spike	P	0 - 30
2356270	Acetaminophen	1.82	Spike	P	0 - 30
2356270	Acetamiprid	1.94	Spike	P	0 - 30
2356270	Afidopyropen	0.994	Spike	P	0 - 30
2356270	Bentazon	2.58	Spike	P	0 - 30
2356270	Benzovindiflupyr	5.16	Spike	P	0 - 30
2356270	Carbamazepine	4.07	Spike	P	0 - 30
2356270	Clothianidin	14.0	Spike	P	0 - 30
2356270	Dinotefuran	2.62	Spike	P	0 - 30
2356270	Diuron	13.1	Spike	P	0 - 30
2356270	Fenuron	1.01	Spike	P	0 - 30
2356270	Fluridone	5.91	Spike	P	0 - 30
2356270	Hydrocodone	2.14	Spike	P	0 - 30
2356270	Ibuprofen	11.3	Spike	P	0 - 30
2356270	Imazapyr	4.70	Spike	P	0 - 30
2356270	Imidacloprid	5.96	Spike	P	0 - 30
2356270	Linuron	3.59	Spike	P	0 - 30
2356270	Mandestrobin	2.24	Spike	P	0 - 30
2356270	MCPP	3.71	Spike	P	0 - 30
2356270	Naproxen	19.1	Spike	P	0 - 30
2356270	Primidone	4.58	Spike	P	0 - 30
2356270	Pyraclostrobin	0.573	Spike	P	0 - 30
2356270	Silvex	1.25	Spike	P	0 - 30
2356270	Thiamethoxam	0.440	Spike	P	0 - 30
2356270	Tolfenpyrad	4.16	Spike	P	0 - 30
2356270	Triclopyr	0.443	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2356447

Field Sample ID: G3SW0115

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	96.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	106	P	30 - 160
EPA 8321B	Carbamazepine-d10	68.4	P	30 - 160
EPA 8321B	Diuron-d6	39.7	P	30 - 160
EPA 8321B	Endothall-d6	131	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	94.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	74.3	P	30 - 160
EPA 8321B	Primidone-d5	90.4	P	30 - 160
EPA 8321B	Sucralose-d6	99.0	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A114773
Included Lab Sample IDs: 2356447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	114	118	P/P	60 - 160
Sucralose	105	104	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A114835
Included Lab Sample IDs: 2356447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	91.1	103	P/P	50 - 150
2,4,5-T	107	107	P/P	50 - 150
Acetaminophen	98.6	97.6	P/P	60 - 160
Acetamiprid	116	110	P/P	50 - 150
Afidopyropen	103	96.1	P/P	50 - 150
Bentazon	106	117	P/P	50 - 160
Benzovindiflupyr	110	108	P/P	50 - 160
Carbamazepine	114	112	P/P	60 - 150
Clothianidin	94.7	87.3	P/P	60 - 150
Dinotefuran	109	112	P/P	50 - 150
Diuron	122	131	P/P	60 - 160
Fenuron	106	109	P/P	60 - 150
Fluridone	112	108	P/P	60 - 160
Hydrocodone	102	108	P/P	60 - 150
Ibuprofen	118	96.3	P/P	50 - 160
Imazapyr	87.5	96.8	P/P	50 - 150
Imidacloprid	116	117	P/P	60 - 150
Linuron	102	113	P/P	60 - 150
Mandestrobin	114	109	P/P	50 - 150
MCPP	97.5	97.2	P/P	50 - 150
Naproxen	80.0	71.2	P/P	50 - 160
Primidone	104	96.6	P/P	60 - 150
Pyraclostrobin	111	108	P/P	60 - 150
Silvex	91.3	95.5	P/P	50 - 150
Thiamethoxam	110	102	P/P	50 - 150
Tolfenpyrad	124	110	P/P	60 - 150
Triclopyr	106	105	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A114851
Included Lab Sample IDs: 2356447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	109	105	P/P	60 - 160
Endothall	92.2	95.2	P/P	60 - 160
Glufosinate	83.6	90.5	P/P	60 - 160
Glyphosate	117	114	P/P	60 - 160

* 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	86.4				9.15
	2,4,5-T	88.3	149	137		8.92
	Acesulfame K	115	88.7	87.5		1.43
	Acetaminophen	93.4	135	138		1.82
	Acetamiprid	89.1	104	102		1.94
	Afidopyropen	70.7	132	130		0.994
	AMPA	106	85.8	82.1		2.59
	Bentazon	111	147	152		2.58
	Benzovindiflupyr	87.3	103	109		5.16
	Carbamazepine	98.4	101	97.2		4.07
	Clothianidin	90.6	123	141		14.0
	Dinotefuran	95.6	137	141		2.62
	Diuron	76.5	70.0	61.4		13.1
	Endothall	115	188	189		0.272
	Fenuron	101	124	125		1.01
	Fluridone	99.2	129	137		5.91
	Glufosinate	107	73.2	82.9		12.5
	Glyphosate	105	105	126		8.83
	Hydrocodone	54.7	80.7	79.0		2.14
	Ibuprofen	52.2	90.1	101		11.3
	Imazapyr	89.9	186	196		4.70
	Imidacloprid	93.6	153	144		5.96
	Linuron	88.7	105	109		3.59
	Mandestrobin	96.2	128	125		2.24
	MCPP	88.1	172	180		3.71
	Naproxen	73.1	128	106		19.1
	Primidone	79.5	143	150		4.58
	Pyraclostrobin	86.0	125	126		0.573
	Silvex	92.4	151	150		1.25
	Sucralose	106	102	100		1.46
	Thiamethoxam	97.2	188	189		0.440
	Tolfenpyrad	76.5	105	101		4.16
	Triclopyr	86.6	145	144		0.443

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2356447

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	09/14/2022	09/15/2022 13:00	Umesh Chiluwal	09/16/2022 04:38	Umesh Chiluwal	2356447
	09/14/2022	09/15/2022 13:00	Umesh Chiluwal	09/16/2022 23:08	Umesh Chiluwal	2356447
	09/14/2022	09/16/2022 09:00	Hoor Shaik	09/21/2022 06:30	Juyoung Kim	2356447