

Chemical Analysis Report

SW-DIST-2022-09-27-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

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

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
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Date Certified: 06-OCT-2022 10:25



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: 09/26/2022 13:25

Field ID: G3SW0115

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2359416	EPA 8321B	2,4-D	0.063		ug/L	P420279	
		Acesulfame K	0.10	U	ug/L	P419980	
		2,4,5-T	0.0040	U	ug/L	P420279	
		AMPA	0.44		ug/L	P419980	
		Acetaminophen	0.0080	U	ug/L	P420279	
		Acetamiprid	0.0020	U	ug/L	P420279	
		Endothall	0.25	U	ug/L	P419980	
		Glufosinate	0.10	U	ug/L	P419980	
		Glyphosate	0.59		ug/L	P419980	
		Afidopyropen	0.0020	U	ug/L	P420279	
		Bentazon	8.0E-04	U	ug/L	P420279	
		Sucralose	0.014	I	ug/L	P419980	
		Benzovindiflupyr	0.0020	U	ug/L	P420279	
		Carbamazepine	8.0E-04	U	ug/L	P420279	
		Clothianidin	0.0023	I	ug/L	P420279	
		Dinotefuran	0.023		ug/L	P420279	
		Diuron	0.0020	U	ug/L	P420279	
		Fenuron	0.032	U	ug/L	P420279	
		Fluridone	8.0E-04	U	ug/L	P420279	
		Imazapyr	0.0040	U	ug/L	P420279	
		Hydrocodone	0.0020	U	ug/L	P420279	
		Ibuprofen	0.020	U	ug/L	P420279	
		Imidacloprid	0.0075	I	ug/L	P420279	
		Linuron	0.0040	U	ug/L	P420279	
		Mandestrobin	0.0020	U	ug/L	P420279	
		MCPP	0.0020	U	ug/L	P420279	
		Naproxen	0.0080	U	ug/L	P420279	
		Primidone	0.0040	U	ug/L	P420279	
		Pyraclostrobin	0.0020	U	ug/L	P420279	
		Silvex	0.0040	U	ug/L	P420279	
		Thiamethoxam	0.0029	I	ug/L	P420279	
		Tolfenpyrad	0.0020	U	ug/L	P420279	
		Triclopyr	0.0040	U	ug/L	P420279	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P419980

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: P420279

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	0.032	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: P419980

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	99.9		P	40 - 150
AMPA	112		P	40 - 150
Endothall	97.7		P	40 - 150
Glufosinate	91.2		P	40 - 150
Glyphosate	109		P	40 - 150
Sucralose	106		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P420279

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	95.8		P	30 - 160
2,4,5-T	89.5		P	30 - 160
Acetaminophen	98.4		P	30 - 150
Acetamiprid	78.8		P	30 - 160
Afidopyropen	65.3		P	30 - 160
Bentazon	33.3		P	30 - 150
Benzovindiflupyr	82.6		P	30 - 160
Carbamazepine	75.3		P	30 - 160
Clothianidin	96.1		P	30 - 160
Dinotefuran	95.8		P	30 - 160
Diuron	76.3		P	30 - 160
Fenuron	103		P	30 - 160
Fluridone	97.7		P	30 - 160
Hydrocodone	93.6		P	30 - 160
Ibuprofen	79.3		P	30 - 160
Imazapyr	88.7		P	30 - 160
Imidacloprid	132		P	30 - 160
Linuron	76.2		P	30 - 160
Mandestrobin	86.9		P	30 - 160
MCPP	101		P	30 - 160
Naproxen	98.6		P	30 - 160
Primidone	90.9		P	30 - 160
Pyraclostrobin	91.1		P	30 - 160
Silvex	79.9		P	30 - 160
Thiamethoxam	91.8		P	30 - 160
Tolfenpyrad	44.2		P	30 - 160
Triclopyr	83.3		P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P419980

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2358851	Acesulfame K	86.6	88.8	P/P	40 - 150
2358851	AMPA	100	106	P/P	40 - 150
2358851	Endothall	126	130	P/P	40 - 150
2358851	Glufosinate	85.2	67.6	P/P	40 - 150
2358851	Glyphosate	85.1	90.0	P/P	40 - 150
2358851	Sucralose	104	104	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P420279

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2359530	2,4-D	106	108	P/P	30 - 160
2359530	2,4,5-T	98.9	97.1	P/P	30 - 160
2359530	Acetaminophen	114	118	P/P	30 - 150
2359530	Acetamiprid	71.5	71.3	P/P	30 - 160
2359530	Afidopyropen	80.4	79.9	P/P	30 - 160
2359530	Benzovindiflupyr	73.6	74.9	P/P	30 - 160
2359530	Carbamazepine	68.8	68.8	P/P	30 - 160
2359530	Clothianidin	111	115	P/P	30 - 160
2359530	Dinotefuran	106	111	P/P	30 - 160
2359530	Diuron	71.9	67.1	P/P	30 - 160
2359530	Fenuron	85.9	88.1	P/P	30 - 160
2359530	Fluridone	87.6	89.3	P/P	30 - 160
2359530	Hydrocodone	93.6	94.2	P/P	30 - 160
2359530	Ibuprofen	74.2	62.6	P/P	30 - 160
2359530	Imazapyr	99.6	99.4	P/P	30 - 160
2359530	Imidacloprid	117	114	P/P	30 - 160
2359530	Linuron	72.2	69.8	P/P	30 - 160
2359530	Mandestrobin	84.7	83.3	P/P	30 - 160
2359530	MCP	119	116	P/P	30 - 160
2359530	Naproxen	95.4	110	P/P	30 - 160
2359530	Primidone	92.2	97.1	P/P	30 - 160
2359530	Pyraclostrobin	90.8	91.8	P/P	30 - 160
2359530	Silvex	91.9	97.4	P/P	30 - 160
2359530	Thiamethoxam	122	125	P/P	30 - 160
2359530	Tolfenpyrad	47.2	49.1	P/P	30 - 160
2359530	Triclopyr	93.7	95.3	P/P	30 - 160

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P419980

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2358851	Acesulfame K	2.46	Spike	P	0 - 30
2358851	AMPA	5.11	Spike	P	0 - 30
2358851	Endothall	2.70	Spike	P	0 - 30
2358851	Glufosinate	23.1	Spike	P	0 - 30
2358851	Glyphosate	5.63	Spike	P	0 - 30
2358851	Sucralose	0.187	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P420279

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2359530	2,4-D	1.63	Spike	P	0 - 30
2359530	2,4,5-T	1.77	Spike	P	0 - 30
2359530	Acetaminophen	3.80	Spike	P	0 - 30
2359530	Acetamiprid	0.288	Spike	P	0 - 30
2359530	Afidopyropen	0.562	Spike	P	0 - 30
2359530	Bentazon	3.73	Spike	P	0 - 30
2359530	Benzovindiflupyr	1.66	Spike	P	0 - 30
2359530	Carbamazepine	0.00701	Spike	P	0 - 30
2359530	Clothianidin	3.93	Spike	P	0 - 30
2359530	Dinotefuran	5.04	Spike	P	0 - 30
2359530	Diuron	5.39	Spike	P	0 - 30
2359530	Fenuron	2.52	Spike	P	0 - 30
2359530	Fluridone	1.39	Spike	P	0 - 30
2359530	Hydrocodone	0.654	Spike	P	0 - 30
2359530	Ibuprofen	16.9	Spike	P	0 - 30
2359530	Imazapyr	0.222	Spike	P	0 - 30
2359530	Imidacloprid	1.73	Spike	P	0 - 30
2359530	Linuron	3.31	Spike	P	0 - 30
2359530	Mandestrobin	1.74	Spike	P	0 - 30
2359530	MCPP	2.75	Spike	P	0 - 30
2359530	Naproxen	14.1	Spike	P	0 - 30
2359530	Primidone	4.77	Spike	P	0 - 30
2359530	Pyraclostrobin	1.04	Spike	P	0 - 30
2359530	Silvex	5.89	Spike	P	0 - 30
2359530	Thiamethoxam	2.54	Spike	P	0 - 30
2359530	Tolfenpyrad	3.86	Spike	P	0 - 30
2359530	Triclopyr	1.68	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2359416

Field Sample ID: G3SW0115

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	139	P	30 - 160
EPA 8321B	Acetaminophen-d4	124	P	30 - 160
EPA 8321B	Carbamazepine-d10	61.6	P	30 - 160
EPA 8321B	Diuron-d6	46.8	P	30 - 160
EPA 8321B	Endothall-d6	122	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	107	P	30 - 160
EPA 8321B	Ibuprofen-d3	78.2	P	30 - 160
EPA 8321B	Primidone-d5	81.6	P	30 - 160
EPA 8321B	Sucralose-d6	93.7	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A114978
Included Lab Sample IDs: 2359416

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	113	120	P/P	60 - 160
Endothall	85.8	89.6	P/P	60 - 160
Glufosinate	83.2	78.2	P/P	60 - 160
Glyphosate	109	112	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A114979
Included Lab Sample IDs: 2359416

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	111	117	P/P	60 - 160
Sucralose	105	103	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A115078
Included Lab Sample IDs: 2359416

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	79.6	94.5	P/P	50 - 150
2,4,5-T	86.9	95.7	P/P	50 - 150
Acetaminophen	103	103	P/P	60 - 160
Acetamiprid	100	100	P/P	50 - 150
Afidopyropen	85.3	96.5	P/P	50 - 150
Bentazon	103	101	P/P	50 - 160
Benzovindiflupyr	97.7	94.8	P/P	50 - 150
Carbamazepine	102	94.1	P/P	60 - 150
Clothianidin	99.9	97.0	P/P	60 - 150
Dinotefuran	104	103	P/P	50 - 150
Diuron	110	106	P/P	60 - 160
Fenuron	99.0	98.6	P/P	60 - 150
Fluridone	105	111	P/P	60 - 160
Hydrocodone	96.9	98.1	P/P	60 - 150
Ibuprofen	131	139	P/P	50 - 160
Imazapyr	85.3	83.5	P/P	50 - 150
Imidacloprid	91.0	93.3	P/P	60 - 150
Linuron	96.0	102	P/P	60 - 150
Mandestrobin	100	93.4	P/P	50 - 150
MCPP	97.9	92.5	P/P	50 - 150
Naproxen	118	78.3	P/P	50 - 160
Primidone	99.3	101	P/P	60 - 150
Pyraclostrobin	107	109	P/P	60 - 150
Silvex	100	94.1	P/P	50 - 150
Thiamethoxam	94.1	94.4	P/P	50 - 150
Tolfenpyrad	95.1	94.8	P/P	60 - 150
Triclopyr	83.0	93.7	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 SMP	MS
			LCS			
EPA 8321B	2,4-D	95.8	106	108		1.63
	2,4,5-T	89.5	98.9	97.1		1.77
	Acesulfame K	99.9	86.6	88.8		2.46
	Acetaminophen	98.4	114	118		3.80
	Acetamiprid	78.8	71.5	71.3		0.288
	Afidopyropen	65.3	80.4	79.9		0.562
	AMPA	112	100	106		5.11
	Bentazon	33.3				3.73
	Benzovindiflupyr	82.6	73.6	74.9		1.66
	Carbamazepine	75.3	68.8	68.8		0.0070
	Clothianidin	96.1	111	115		3.93
	Dinotefuran	95.8	106	111		5.04
	Diuron	76.3	71.9	67.1		5.39
	Endothall	97.7	126	130		2.70
	Fenuron	103	85.9	88.1		2.52
	Fluridone	97.7	87.6	89.3		1.39
	Glufosinate	91.2	85.2	67.6		23.1
	Glyphosate	109	85.1	90.0		5.63
	Hydrocodone	93.6	93.6	94.2		0.654
	Ibuprofen	79.3	74.2	62.6		16.9
	Imazapyr	88.7	99.6	99.4		0.222
	Imidacloprid	132	117	114		1.73
	Linuron	76.2	72.2	69.8		3.31
	Mandestrobin	86.9	84.7	83.3		1.74
	MCPP	101	119	116		2.75
	Naproxen	98.6	95.4	110		14.1
	Primidone	90.9	92.2	97.1		4.77
	Pyraclostrobin	91.1	90.8	91.8		1.04
	Silvex	79.9	91.9	97.4		5.89
	Sucralose	106	104	104		0.187
	Thiamethoxam	91.8	122	125		2.54
	Tolfenpyrad	44.2	47.2	49.1		3.86
	Triclopyr	83.3	93.7	95.3		1.68

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2359416

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	09/27/2022	09/27/2022 12:00	Umesh Chiluwal	09/27/2022 15:55	Umesh Chiluwal	2359416
	09/27/2022	09/27/2022 12:00	Umesh Chiluwal	09/28/2022 02:43	Umesh Chiluwal	2359416
	09/27/2022	09/30/2022 09:30	June Rhew	09/30/2022 19:35	Juyoung Kim	2359416