

Chemical Analysis Report

SO-DIST-2024-03-06-01

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

Event Description: **2024 SMP : Myakka River - Snook Haven**
Request ID: **RQ-2024-02-05-27**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 314
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 19-MAR-2024 12:35



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: MYAKKA RIVER SNOOK HAVEN

Collection Date/Time: 03/05/2024 11:50

Field ID: G3SD0245

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2473493	EPA 8321B	2,4-D	0.0062	I	ug/L	P442283	
		Acesulfame K	0.10	U	ug/L	P442305	
		2,4,5-T	0.0040	U	ug/L	P442283	
		AMPA	0.34	I	ug/L	P442305	
		Acetaminophen	0.0080	U	ug/L	P442283	
		Endothall	0.25	U	ug/L	P442305	
		Acetamiprid	0.0020	U	ug/L	P442283	MS, RPD
		Glufosinate	0.10	U	ug/L	P442305	
		Glyphosate	0.18	I	ug/L	P442305	
		Afidopyropen	0.0020	U	ug/L	P442283	
		Bentazon	0.019		ug/L	P442283	
		Sucralose	0.082		ug/L	P442305	
		Benzovindiflupyr	0.0020	U	ug/L	P442283	
		Carbamazepine	8.0E-04	U	ug/L	P442283	
		Clothianidin	0.0020	U	ug/L	P442283	
		Dinotefuran	0.012		ug/L	P442283	
		Diuron	0.0020	U	ug/L	P442283	
		Fenuron	0.032	U	ug/L	P442283	
		Fluridone	0.0017	I	ug/L	P442283	
		Imazapyr	0.019		ug/L	P442283	
		Hydrocodone	0.0020	U	ug/L	P442283	
		Ibuprofen	0.080	U	ug/L	P442283	
		Imidacloprid	0.0032	I	ug/L	P442283	
		Linuron	0.0040	U	ug/L	P442283	
		Mandestrobin	0.0020	U	ug/L	P442283	
		MCPP	0.0020	U	ug/L	P442283	
		Naproxen	0.0080	U	ug/L	P442283	
		Primidone	0.0040	U	ug/L	P442283	
		Pyraclostrobin	0.0020	U	ug/L	P442283	
		Silvex	0.0040	U	ug/L	P442283	
		Thiamethoxam	0.0020	U	ug/L	P442283	
		Tolfenpyrad	0.0020	U	ug/L	P442283	
		Triclopyr	0.0040	U	ug/L	P442283	

Ref. Method and Comment:

EPA 8321B: MS accuracy for bentazon 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: P442283

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	0.080	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

Reference Method: EPA 8321B

Batch ID: P442305

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: P442283

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	105		P	40 - 150
2,4,5-T	122		P	40 - 150
Acetaminophen	83.8		P	30 - 150
Acetamiprid	75.7		P	40 - 150
Afidopyropen	70.1		P	30 - 150
Bentazon	99.1		P	30 - 150
Benzovindiflupyr	86.8		P	40 - 150
Carbamazepine	87.8		P	40 - 150
Clothianidin	87.6		P	40 - 150
Dinotefuran	96.7		P	40 - 150
Diuron	85.7		P	40 - 150
Fenuron	90.1		P	40 - 150
Fluridone	98.8		P	40 - 150
Hydrocodone	92.5		P	40 - 150
Ibuprofen	80.9		P	40 - 150
Imazapyr	99.4		P	40 - 150
Imidacloprid	90.3		P	40 - 150
Linuron	81.0		P	40 - 150
Mandestrobin	91.4		P	40 - 150
MCPP	110		P	40 - 150
Naproxen	74.9		P	40 - 150
Primidone	88.7		P	40 - 150
Pyraclostrobin	78.8		P	40 - 150
Silvex	106		P	40 - 150
Thiamethoxam	95.9		P	40 - 150
Tolfenpyrad	55.4		P	30 - 150
Triclopyr	121		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P442305

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	98.7		P	40 - 150
AMPA	102		P	40 - 160
Endothall	93.0		P	40 - 160
Glufosinate	108		P	40 - 160
Glyphosate	98.7		P	40 - 160
Sucralose	93.5		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P442283

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2472399	2,4-D	75.3	83.6	P/P	40 - 150
2472399	2,4,5-T	84.1	90.0	P/P	40 - 150
2472399	Acetaminophen	67.2	77.8	P/P	30 - 150
2472399	Acetamiprid	34.3	54.7	F/P	40 - 150
2472399	Afidopyropen	58.0	67.7	P/P	30 - 150
2472399	Benzovindiflupyr	82.8	85.0	P/P	40 - 150
2472399	Carbamazepine	65.8	71.3	P/P	40 - 150
2472399	Clothianidin	60.4	68.2	P/P	40 - 150
2472399	Dinotefuran	57.4	69.8	P/P	40 - 150
2472399	Diuron	67.7	70.8	P/P	40 - 150
2472399	Fenuron	55.5	63.4	P/P	40 - 150
2472399	Fluridone	80.2	80.5	P/P	40 - 150
2472399	Hydrocodone	56.5	63.4	P/P	40 - 150
2472399	Ibuprofen	85.4	65.3	P/P	40 - 150
2472399	Imazapyr	97.4	86.8	P/P	40 - 150
2472399	Imidacloprid	69.4	76.9	P/P	40 - 150
2472399	Linuron	78.1	72.0	P/P	40 - 150
2472399	Mandestrobin	84.4	89.2	P/P	40 - 150
2472399	MCCP	90.5	88.3	P/P	40 - 150
2472399	Naproxen	69.6	86.0	P/P	40 - 150
2472399	Primidone	75.5	80.1	P/P	40 - 150
2472399	Pyraclostrobin	74.1	77.3	P/P	40 - 150
2472399	Silvex	107	102	P/P	40 - 150
2472399	Thiamethoxam	57.5	68.8	P/P	40 - 150
2472399	Tolfenpyrad	57.6	51.0	P/P	30 - 150
2472399	Triclopyr	89.0	90.3	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P442305

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2473091	Acesulfame K	127	128	P/P	40 - 150
2473091	AMPA	94.4	90.4	P/P	40 - 160
2473091	Endothall	111	112	P/P	40 - 160
2473091	Glufosinate	101	100	P/P	40 - 160
2473091	Glyphosate	101	108	P/P	40 - 160
2473091	Sucralose	96.3	99.4	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P442283

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2472399	2,4-D	9.16	Spike	P	0 - 30
2472399	2,4,5-T	6.75	Spike	P	0 - 30
2472399	Acetaminophen	14.5	Spike	P	0 - 30
2472399	Acetamiprid	45.7	Spike	F	0 - 30
2472399	Afidopyropen	15.4	Spike	P	0 - 30
2472399	Bentazon	8.00	Spike	P	0 - 30
2472399	Benzovindiflupyr	2.69	Spike	P	0 - 30
2472399	Carbamazepine	8.13	Spike	P	0 - 30
2472399	Clothianidin	12.1	Spike	P	0 - 30
2472399	Dinotefuran	18.2	Spike	P	0 - 30
2472399	Diuron	4.49	Spike	P	0 - 30
2472399	Fenuron	13.3	Spike	P	0 - 30
2472399	Fluridone	0.326	Spike	P	0 - 30
2472399	Hydrocodone	11.5	Spike	P	0 - 30
2472399	Ibuprofen	26.7	Spike	P	0 - 30
2472399	Imazapyr	6.50	Spike	P	0 - 30
2472399	Imidacloprid	10.3	Spike	P	0 - 30
2472399	Linuron	8.09	Spike	P	0 - 30
2472399	Mandestrobin	5.48	Spike	P	0 - 30
2472399	MCPP	2.44	Spike	P	0 - 30
2472399	Naproxen	21.1	Spike	P	0 - 30
2472399	Primidone	5.90	Spike	P	0 - 30
2472399	Pyraclostrobin	4.24	Spike	P	0 - 30
2472399	Silvex	4.31	Spike	P	0 - 30
2472399	Thiamethoxam	17.8	Spike	P	0 - 30
2472399	Tolfenpyrad	12.0	Spike	P	0 - 30
2472399	Triclopyr	1.38	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P442305

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2473091	Acesulfame K	0.778	Spike	P	0 - 30
2473091	AMPA	4.31	Spike	P	0 - 30
2473091	Endothall	1.25	Spike	P	0 - 30
2473091	Glufosinate	0.985	Spike	P	0 - 30
2473091	Glyphosate	6.54	Spike	P	0 - 30
2473091	Sucralose	3.12	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2473493
Field Sample ID: G3SD0245

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	80.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	55.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	60.6	P	30 - 160
EPA 8321B	Diuron-d6	69.0	P	30 - 160
EPA 8321B	Endothall-d6	94.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	98.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	71.1	P	30 - 160
EPA 8321B	Primidone-d5	58.9	P	30 - 160
EPA 8321B	Sucralose-d6	112	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A124587
Included Lab Sample IDs: 2473493

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	99.0	109	P/P	60 - 160
Endothall	89.6	92.6	P/P	60 - 160
Glufosinate	96.7	109	P/P	60 - 160
Glyphosate	101	111	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A124614
Included Lab Sample IDs: 2473493

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	115	123	P/P	60 - 160
Sucralose	93.8	101	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A124637
Included Lab Sample IDs: 2473493

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	109	98.8	P/P	50 - 150
2,4,5-T	111	111	P/P	50 - 150
Acetaminophen	98.2	98.2	P/P	60 - 160
Acetamiprid	105	105	P/P	50 - 150
Afidopyropen	100	119	P/P	50 - 150
Bentazon	107	101	P/P	50 - 160
Benzovindiflupyr	105	102	P/P	50 - 150
Carbamazepine	109	104	P/P	60 - 150
Clothianidin	104	101	P/P	60 - 150
Dinotefuran	106	108	P/P	50 - 150
Diuron	107	124	P/P	60 - 160
Fenuron	108	104	P/P	60 - 150
Fluridone	112	110	P/P	60 - 160
Hydrocodone	106	111	P/P	60 - 150
Ibuprofen	119	80.1	P/P	50 - 160
Imazapyr	106	101	P/P	50 - 150
Imidacloprid	100	106	P/P	60 - 150
Linuron	103	114	P/P	60 - 150
Mandestrobin	112	110	P/P	50 - 150
MCPP	110	120	P/P	50 - 150
Naproxen	82.7	109	P/P	50 - 160
Primidone	107	108	P/P	60 - 150
Pyraclostrobin	103	98.5	P/P	60 - 150
Silvex	103	117	P/P	50 - 150
Thiamethoxam	115	114	P/P	50 - 150
Tolfenpyrad	103	97.1	P/P	60 - 150
Triclopyr	106	110	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	MS
			LCS	SMP		
EPA 8321B	2,4-D	105	75.3	83.6		9.16
	2,4,5-T	122	84.1	90.0		6.75
	Acesulfame K	98.7	127	128		0.778
	Acetaminophen	83.8	67.2	77.8		14.5
	Acetamiprid	75.7	34.3	54.7		45.7
	Afidopyropen	70.1	58.0	67.7		15.4
	AMPA	102	94.4	90.4		4.31
	Bentazon	99.1				8.00
	Benzovindiflupyr	86.8	82.8	85.0		2.69
	Carbamazepine	87.8	65.8	71.3		8.13
	Clothianidin	87.6	60.4	68.2		12.1
	Dinotefuran	96.7	57.4	69.8		18.2
	Diuron	85.7	67.7	70.8		4.49
	Endothall	93.0	111	112		1.25
	Fenuron	90.1	55.5	63.4		13.3
	Fluridone	98.8	80.2	80.5		0.326
	Glufosinate	108	101	100		0.985
	Glyphosate	98.7	101	108		6.54
	Hydrocodone	92.5	56.5	63.4		11.5
	Ibuprofen	80.9	85.4	65.3		26.7
	Imazapyr	99.4	97.4	86.8		6.50
	Imidacloprid	90.3	69.4	76.9		10.3
	Linuron	81.0	78.1	72.0		8.09
	Mandestrobin	91.4	84.4	89.2		5.48
	MCPP	110	90.5	88.3		2.44
	Naproxen	74.9	69.6	86.0		21.1
	Primidone	88.7	75.5	80.1		5.90
	Pyraclostrobin	78.8	74.1	77.3		4.24
	Silvex	106	107	102		4.31
	Sucralose	93.5	96.3	99.4		3.12
	Thiamethoxam	95.9	57.5	68.8		17.8
	Tolfenpyrad	55.4	57.6	51.0		12.0
	Triclopyr	121	89.0	90.3		1.38

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2473493

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	03/06/2024	03/06/2024 13:00	Hoor Shaik	03/08/2024 01:59	Juyoung Kim	2473493
	03/06/2024	03/06/2024 13:00	Samatha Luckman	03/06/2024 19:47	Samatha Luckman	2473493
	03/06/2024	03/06/2024 13:00	Samatha Luckman	03/08/2024 16:25	Samatha Luckman	2473493