

Chemical Analysis Report

SE-DIST-2024-01-31-02

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

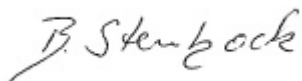
Event Description: **SMP - Vero Boat/Canoe**
Request ID: **RQ-2024-02-12-09**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Andrew Luering

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Marek Topolski, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 09-FEB-2024 18:37



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: SOUTH IRL OUTISDE BOB SUMMERS PARK

Collection Date/Time: 01/30/2024 13:00

Field ID: G5SE0088

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2464703	EPA 8321B	Acesulfame K	0.10	U	ug/L	P440694	
		2,4-D	0.036		ug/L	P440702	
		AMPA	0.50	U	ug/L	P440694	
		2,4,5-T	0.0040	U	ug/L	P440702	
		Acetaminophen	0.0080	U	ug/L	P440702	
		Endothall	0.25	U	ug/L	P440694	
		Acetamiprid	0.0020	U	ug/L	P440702	
		Glufosinate	0.50	U	ug/L	P440694	
		Glyphosate	0.50	U	ug/L	P440694	
		Afidopyropen	0.0020	U	ug/L	P440702	
		Sucralose	0.17		ug/L	P440694	
		Bentazon	0.0073		ug/L	P440702	
		Benzovindiflupyr	0.0020	U	ug/L	P440702	
		Carbamazepine	8.0E-04	U	ug/L	P440702	
		Clothianidin	0.0020	U	ug/L	P440702	
		Dinotefuran	0.0020	U	ug/L	P440702	
		Diuron	0.0020	U	ug/L	P440702	
		Fenuron	0.032	U	ug/L	P440702	
		Fluridone	0.0043		ug/L	P440702	
		Imazapyr	0.041		ug/L	P440702	
		Hydrocodone	0.0020	U	ug/L	P440702	
		Ibuprofen	0.080	U	ug/L	P440702	RPD
		Imidacloprid	0.0021	I	ug/L	P440702	
		Linuron	0.0040	U	ug/L	P440702	
		Mandestrobin	0.0020	U	ug/L	P440702	
		MCPP	0.0020	U	ug/L	P440702	
		Naproxen	0.0080	U	ug/L	P440702	
		Primidone	0.0040	U	ug/L	P440702	
		Pyraclostrobin	0.0020	U	ug/L	P440702	
		Silvex	0.0040	U	ug/L	P440702	
		Thiamethoxam	0.0020	U	ug/L	P440702	
		Tolfenpyrad	0.0020	U	ug/L	P440702	
		Triclopyr	0.0040	U	ug/L	P440702	

Ref. Method and Comment:

EPA 8321B: Some MDLs are elevated due to required dilution of sample matrix.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P440694

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: P440702

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P440694

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	128		P	40 - 150
AMPA	115		P	40 - 160
Endothall	102		P	40 - 160
Glufosinate	96.6		P	40 - 160
Glyphosate	113		P	40 - 160
Sucralose	86.1		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P440702

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	98.9		P	40 - 150
2,4,5-T	104		P	40 - 150
Acetaminophen	85.8		P	30 - 150
Acetamiprid	75.8		P	40 - 150
Afidopyropen	59.5		P	30 - 150
Bentazon	79.7		P	30 - 150
Benzovindiflupyr	78.3		P	40 - 150
Carbamazepine	82.5		P	40 - 150
Clothianidin	88.8		P	40 - 150
Dinotefuran	95.7		P	40 - 150
Diuron	82.9		P	40 - 150
Fenuron	88.3		P	40 - 150
Fluridone	89.2		P	40 - 150
Hydrocodone	98.1		P	40 - 150
Ibuprofen	65.5		P	40 - 150
Imazapyr	86.5		P	40 - 150
Imidacloprid	84.2		P	40 - 150
Linuron	77.3		P	40 - 150
Mandestrobin	86.6		P	40 - 150
MCPP	94.4		P	40 - 150
Naproxen	73.5		P	40 - 150
Primidone	79.7		P	40 - 150
Pyraclostrobin	86.6		P	40 - 150
Silvex	92.4		P	40 - 150
Thiamethoxam	86.7		P	40 - 150
Tolfenpyrad	49.4		P	30 - 150
Triclopyr	105		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P440694

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2464600	Acesulfame K	136	136	P/P	40 - 150
2464600	AMPA	119	116	P/P	40 - 160
2464600	Endothall	105	114	P/P	40 - 160
2464600	Glufosinate	99.7	97.1	P/P	40 - 160
2464600	Glyphosate	112	111	P/P	40 - 160
2464600	Sucralose	87.2	85.1	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P440702

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2464575	2,4-D	85.8	84.2	P/P	40 - 150
2464575	2,4,5-T	93.8	97.7	P/P	40 - 150
2464575	Acetaminophen	107	106	P/P	30 - 150
2464575	Acetamiprid	93.8	79.9	P/P	40 - 150
2464575	Afidopyropen	102	88.7	P/P	30 - 150
2464575	Bentazon	41.3	41.4	P/P	30 - 150
2464575	Benzovindiflupyr	101	96.1	P/P	40 - 150
2464575	Carbamazepine	80.2	82.0	P/P	40 - 150
2464575	Clothianidin	106	105	P/P	40 - 150
2464575	Dinotefuran	111	111	P/P	40 - 150
2464575	Diuron	83.4	82.1	P/P	40 - 150
2464575	Fenuron	77.4	75.0	P/P	40 - 150
2464575	Fluridone	87.3	91.9	P/P	40 - 150
2464575	Hydrocodone	98.2	94.3	P/P	40 - 150
2464575	Ibuprofen	64.0	88.7	P/P	40 - 150
2464575	Imazapyr	112	111	P/P	40 - 150
2464575	Imidacloprid	129	127	P/P	40 - 150
2464575	Linuron	81.3	81.1	P/P	40 - 150
2464575	Mandestrobin	103	105	P/P	40 - 150
2464575	MCPP	107	101	P/P	40 - 150
2464575	Naproxen	87.1	94.7	P/P	40 - 150
2464575	Primidone	104	98.6	P/P	40 - 150
2464575	Pyraclostrobin	99.5	98.7	P/P	40 - 150
2464575	Silvex	93.1	92.8	P/P	40 - 150
2464575	Thiamethoxam	110	107	P/P	40 - 150
2464575	Tolfenpyrad	64.3	60.6	P/P	30 - 150
2464575	Triclopyr	92.4	95.4	P/P	40 - 150

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P440694

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2464600	Acesulfame K	0.154	Spike	P	0 - 30
2464600	AMPA	2.26	Spike	P	0 - 30
2464600	Endothall	7.90	Spike	P	0 - 30
2464600	Glufosinate	2.62	Spike	P	0 - 30
2464600	Glyphosate	0.548	Spike	P	0 - 30
2464600	Sucralose	2.41	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P440702

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2464575	2,4-D	1.67	Spike	P	0 - 30
2464575	2,4,5-T	4.05	Spike	P	0 - 30
2464575	Acetaminophen	1.23	Spike	P	0 - 30
2464575	Acetamiprid	16.0	Spike	P	0 - 30
2464575	Afidopyropen	14.2	Spike	P	0 - 30
2464575	Bentazon	0.245	Spike	P	0 - 30
2464575	Benzovindiflupyr	4.67	Spike	P	0 - 30
2464575	Carbamazepine	2.24	Spike	P	0 - 30
2464575	Clothianidin	0.784	Spike	P	0 - 30
2464575	Dinotefuran	0.0879	Spike	P	0 - 30
2464575	Diuron	1.52	Spike	P	0 - 30
2464575	Fenuron	3.14	Spike	P	0 - 30
2464575	Fluridone	5.18	Spike	P	0 - 30
2464575	Hydrocodone	4.07	Spike	P	0 - 30
2464575	Ibuprofen	32.4	Spike	F	0 - 30
2464575	Imazapyr	0.353	Spike	P	0 - 30
2464575	Imidacloprid	1.59	Spike	P	0 - 30
2464575	Linuron	0.176	Spike	P	0 - 30
2464575	Mandestrobin	1.70	Spike	P	0 - 30
2464575	MCPP	5.94	Spike	P	0 - 30
2464575	Naproxen	8.44	Spike	P	0 - 30
2464575	Primidone	5.29	Spike	P	0 - 30
2464575	Pyraclostrobin	0.864	Spike	P	0 - 30
2464575	Silvex	0.284	Spike	P	0 - 30
2464575	Thiamethoxam	3.10	Spike	P	0 - 30
2464575	Tolfenpyrad	5.91	Spike	P	0 - 30
2464575	Triclopyr	3.28	Spike	P	0 - 30

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2464703
Field Sample ID: G5SE0088

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	95.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	81.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	78.0	P	30 - 160
EPA 8321B	Diuron-d6	64.1	P	30 - 160
EPA 8321B	Endothall-d6	84.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	79.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	70.2	P	30 - 160
EPA 8321B	Primidone-d5	88.0	P	30 - 160
EPA 8321B	Sucralose-d6	47.3	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A123935
 Included Lab Sample IDs: 2464703

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	142	139	P/P	60 - 160
Sucralose	88.5	87.8	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A123959
 Included Lab Sample IDs: 2464703

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	78.2	81.1	P/P	60 - 160
Endothall	75.7	71.3	P/P	60 - 160
Glufosinate	69.2	65.6	P/P	60 - 160
Glyphosate	75.4	78.0	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A123987
 Included Lab Sample IDs: 2464703

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	105	108	P/P	50 - 150
2,4,5-T	113	110	P/P	50 - 150
Acetaminophen	110	110	P/P	60 - 160
Acetamiprid	111	110	P/P	50 - 150
Afidopyropen	88.5	100	P/P	50 - 150
Bentazon	99.3	105	P/P	50 - 160
Benzovindiflupyr	106	107	P/P	50 - 150
Carbamazepine	110	110	P/P	60 - 150
Clothianidin	110	107	P/P	60 - 150
Dinotefuran	111	110	P/P	50 - 150
Diuron	115	111	P/P	60 - 160
Fenuron	106	107	P/P	60 - 150
Fluridone	109	107	P/P	60 - 160
Hydrocodone	118	118	P/P	60 - 150
Ibuprofen	85.1	105	P/P	50 - 160
Imazapyr	91.3	97.8	P/P	50 - 150
Imidacloprid	102	98.5	P/P	60 - 150
Linuron	105	108	P/P	60 - 150
Mandestrobin	107	110	P/P	50 - 150
MCPP	103	110	P/P	50 - 150
Naproxen	70.0	88.0	P/P	50 - 160
Primidone	100	99.1	P/P	60 - 150
Pyraclostrobin	107	111	P/P	60 - 150
Silvex	108	107	P/P	50 - 150
Thiamethoxam	108	111	P/P	50 - 150
Tolfenpyrad	96.6	97.3	P/P	60 - 150
Triclopyr	115	123	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	98.9	85.8	84.2		1.67
	2,4,5-T	104	93.8	97.7		4.05
	Acesulfame K	128	136	136		0.154
	Acetaminophen	85.8	106	107		1.23
	Acetamiprid	75.8	79.9	93.8		16.0
	Afidopyropen	59.5	102	88.7		14.2
	AMPA	115	119	116		2.26
	Bentazon	79.7	41.3	41.4		0.245
	Benzovindiflupyr	78.3	101	96.1		4.67
	Carbamazepine	82.5	82.0	80.2		2.24
	Clothianidin	88.8	105	106		0.784
	Dinotefuran	95.7	111	111		0.0879
	Diuron	82.9	83.4	82.1		1.52
	Endothall	102	105	114		7.90
	Fenuron	88.3	75.0	77.4		3.14
	Fluridone	89.2	87.3	91.9		5.18
	Glufosinate	96.6	99.7	97.1		2.62
	Glyphosate	113	112	111		0.548
	Hydrocodone	98.1	94.3	98.2		4.07
	Ibuprofen	65.5	64.0	88.7		32.4
	Imazapyr	86.5	112	111		0.353
	Imidacloprid	84.2	127	129		1.59
	Linuron	77.3	81.3	81.1		0.176
	Mandestrobin	86.6	103	105		1.70
	MCPP	94.4	107	101		5.94
	Naproxen	73.5	87.1	94.7		8.44
	Primidone	79.7	98.6	104		5.29
	Pyraclostrobin	86.6	99.5	98.7		0.864
	Silvex	92.4	93.1	92.8		0.284
	Sucralose	86.1	87.2	85.1		2.41
	Thiamethoxam	86.7	107	110		3.10
	Tolfenpyrad	49.4	64.3	60.6		5.91
	Triclopyr	105	92.4	95.4		3.28

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2464703

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	01/31/2024	01/31/2024 12:00	Hana Lee	01/31/2024 20:45	Hana Lee	2464703
	01/31/2024	01/31/2024 12:00	Hana Lee	02/01/2024 13:03	Hana Lee	2464703
	01/31/2024	01/31/2024 12:00	Hana Lee	02/01/2024 15:19	Hana Lee	2464703
	01/31/2024	02/02/2024 11:30	Hoor Shaik	02/02/2024 23:57	Juyoung Kim	2464703