

Chemical Analysis Report

NW-DIST-2022-05-19-01

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

Event Description: **SMP/TREND RUN**

Request ID: **RQ-2022-05-16-28**

Customer: **NW-DIST**

Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 W Government Street
Suite 208
Pensacola, FL 32502-5794
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Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 26-MAY-2022 09:50



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: Choctawatchee River at State Highway 2

Collection Date/Time: 05/18/2022 14:30

Field ID: G3NW0006

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2328464	EPA 8321B	2,4-D	0.0034	I	ug/L	P414017	
		Acesulfame K	0.10	U	ug/L	P414089	
		2,4,5-T	0.0040	U	ug/L	P414017	
		AMPA	0.10	U	ug/L	P414089	
		Acetaminophen	0.0080	U	ug/L	P414017	
		Acetamiprid	0.0020	U	ug/L	P414017	
		Endothall	0.25	U	ug/L	P414089	
		Glufosinate	0.10	U	ug/L	P414089	
		Glyphosate	0.10	U	ug/L	P414089	
		Afidopyropen	0.0020	U	ug/L	P414017	
		Sucralose	0.83		ug/L	P414089	
		Bentazon	0.0071		ug/L	P414017	MS
		Benzovindiflupyr	0.0020	U	ug/L	P414017	
		Carbamazepine	0.0016	I	ug/L	P414017	
		Clothianidin	0.0020	U	ug/L	P414017	
		Dinotefuran	0.0020	U	ug/L	P414017	
		Diuron	0.0020	U	ug/L	P414017	
		Fenuron	0.032	U	ug/L	P414017	
		Fluridone	8.0E-04	U	ug/L	P414017	
		Imazapyr	0.0098	I	ug/L	P414017	
		Hydrocodone	0.0020	U	ug/L	P414017	
		Ibuprofen	0.020	U	ug/L	P414017	
		Imidacloprid	0.0075	I	ug/L	P414017	
		Linuron	0.0040	U	ug/L	P414017	
		Mandestrobin	0.0020	U	ug/L	P414017	
		MCPP	0.0040	U	ug/L	P414017	
		Naproxen	0.0080	U	ug/L	P414017	
		Primidone	0.0040	U	ug/L	P414017	
		Pyraclostrobin	0.0020	U	ug/L	P414017	
		Silvex	0.0040	U	ug/L	P414017	
		Thiamethoxam	0.0020	U	ug/L	P414017	
		Tolfenpyrad	0.0020	U	ug/L	P414017	
		Triclopyr	0.0040	U	ug/L	P414017	

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P414017

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	0.0040	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: P414089

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: P414017

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	71.0		P	40 - 150
2,4,5-T	61.3		P	40 - 150
Acetaminophen	59.2		P	30 - 150
Acetamiprid	91.9		P	40 - 150
Afidopyropen	65.8		P	30 - 150
Bentazon	138		P	30 - 150
Benzovindiflupyr	85.8		P	40 - 150
Carbamazepine	95.5		P	40 - 150
Clothianidin	99.2		P	40 - 150
Dinotefuran	96.6		P	40 - 150
Diuron	81.8		P	40 - 150
Fenuron	101		P	40 - 150
Fluridone	71.4		P	40 - 150
Hydrocodone	92.2		P	40 - 150
Ibuprofen	70.8		P	40 - 150
Imazapyr	84.9		P	40 - 150
Imidacloprid	83.8		P	40 - 150
Linuron	68.6		P	40 - 150
Mandestrobin	75.8		P	40 - 150
MCPP	93.6		P	40 - 150
Naproxen	66.4		P	40 - 150
Primidone	90.5		P	40 - 150
Pyraclostrobin	81.1		P	40 - 150
Silvex	56.9		P	40 - 150
Thiamethoxam	97.5		P	40 - 150
Tolfenpyrad	44.6		P	30 - 150
Triclopyr	66.6		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P414089

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	149		P	40 - 150
AMPA	101		P	40 - 150
Endothall	83.8		P	40 - 150
Glufosinate	102		P	40 - 150
Glyphosate	100		P	40 - 150
Sucralose	98.7		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P414017

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2327564	2,4-D	80.9	72.4	P/P	40 - 150
2327564	2,4,5-T	69.9	60.1	P/P	40 - 150
2327564	Acetaminophen	65.0	62.9	P/P	30 - 150
2327564	Acetamiprid	90.5	88.3	P/P	40 - 150
2327564	Afidopyropen	61.9	58.4	P/P	30 - 150
2327564	Bentazon	176	143	F/P	30 - 150
2327564	Benzovindiflupyr	100	87.0	P/P	40 - 150
2327564	Carbamazepine	112	101	P/P	40 - 150
2327564	Clothianidin	94.1	85.7	P/P	40 - 150
2327564	Dinotefuran	114	102	P/P	40 - 150
2327564	Diuron	97.3	88.1	P/P	40 - 150
2327564	Fenuron	112	98.0	P/P	40 - 150
2327564	Fluridone	83.4	75.6	P/P	40 - 150
2327564	Hydrocodone	108	98.8	P/P	40 - 150
2327564	Ibuprofen	69.7	62.9	P/P	40 - 150
2327564	Imazapyr	94.5	82.2	P/P	40 - 150
2327564	Imidacloprid	110	96.4	P/P	40 - 150
2327564	Linuron	71.1	67.4	P/P	40 - 150
2327564	Mandestrobin	77.9	73.4	P/P	40 - 150
2327564	MCCP	102	82.2	P/P	40 - 150
2327564	Naproxen	74.7	59.2	P/P	40 - 150
2327564	Primidone	85.3	80.9	P/P	40 - 150
2327564	Pyraclostrobin	92.4	84.4	P/P	40 - 150
2327564	Silvex	65.8	56.4	P/P	40 - 150
2327564	Thiamethoxam	110	101	P/P	40 - 150
2327564	Tolfenpyrad	54.2	47.1	P/P	30 - 150
2327564	Triclopyr	75.3	62.8	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P414089

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2327862	Acesulfame K	123	118	P/P	40 - 150
2327862	AMPA	111	104	P/P	40 - 150
2327862	Endothall	88.1	89.5	P/P	40 - 150
2327862	Glufosinate	95.8	89.4	P/P	40 - 150
2327862	Glyphosate	94.2	94.1	P/P	40 - 150
2327862	Sucralose	99.5	101	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P414017

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2327564	2,4-D	11.2	Spike	P	0 - 30
2327564	2,4,5-T	15.0	Spike	P	0 - 30
2327564	Acetaminophen	3.33	Spike	P	0 - 30
2327564	Acetamiprid	2.47	Spike	P	0 - 30
2327564	Afidopyropen	5.79	Spike	P	0 - 30
2327564	Bentazon	17.1	Spike	P	0 - 30
2327564	Benzovindiflupyr	14.0	Spike	P	0 - 30
2327564	Carbamazepine	10.5	Spike	P	0 - 30
2327564	Clothianidin	9.29	Spike	P	0 - 30
2327564	Dinotefuran	10.9	Spike	P	0 - 30
2327564	Diuron	10.0	Spike	P	0 - 30
2327564	Fenuron	13.0	Spike	P	0 - 30
2327564	Fluridone	8.14	Spike	P	0 - 30
2327564	Hydrocodone	9.01	Spike	P	0 - 30
2327564	Ibuprofen	10.3	Spike	P	0 - 30
2327564	Imazapyr	13.1	Spike	P	0 - 30
2327564	Imidacloprid	13.5	Spike	P	0 - 30
2327564	Linuron	5.41	Spike	P	0 - 30
2327564	Mandestrobin	5.93	Spike	P	0 - 30
2327564	MCP	21.4	Spike	P	0 - 30
2327564	Naproxen	23.2	Spike	P	0 - 30
2327564	Primidone	5.29	Spike	P	0 - 30
2327564	Pyraclostrobin	8.97	Spike	P	0 - 30
2327564	Silvex	15.5	Spike	P	0 - 30
2327564	Thiamethoxam	8.31	Spike	P	0 - 30
2327564	Tolfenpyrad	14.1	Spike	P	0 - 30
2327564	Triclopyr	18.1	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P414089

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2327862	Acesulfame K	3.98	Spike	P	0 - 30
2327862	AMPA	5.94	Spike	P	0 - 30
2327862	Endothall	1.58	Spike	P	0 - 30
2327862	Glufosinate	6.87	Spike	P	0 - 30
2327862	Glyphosate	0.121	Spike	P	0 - 30
2327862	Sucralose	0.699	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2328464

Field Sample ID: G3NW0006

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	78.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	41.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	108	P	30 - 160
EPA 8321B	Diuron-d6	73.2	P	30 - 160
EPA 8321B	Endothall-d6	79.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	103	P	30 - 160
EPA 8321B	Ibuprofen-d3	60.3	P	30 - 160
EPA 8321B	Primidone-d5	80.8	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A112324
Included Lab Sample IDs: 2328464

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	89.1	92.3	P/P	50 - 150
2,4,5-T	87.8	91.6	P/P	50 - 150
Acetaminophen	104	109	P/P	60 - 160
Acetamiprid	108	112	P/P	50 - 150
Afidopyropen	89.5	101	P/P	50 - 150
Bentazon	95.5	107	P/P	50 - 160
Benzovindiflupyr	100	100	P/P	50 - 150
Carbamazepine	97.3	103	P/P	60 - 150
Clothianidin	113	109	P/P	60 - 150
Dinotefuran	100	104	P/P	50 - 150
Diuron	122	116	P/P	60 - 160
Fenuron	95.6	97.3	P/P	60 - 150
Fluridone	103	102	P/P	60 - 160
Hydrocodone	100	103	P/P	60 - 150
Ibuprofen	85.9	87.7	P/P	50 - 160
Imazapyr	84.0	90.0	P/P	50 - 150
Imidacloprid	87.7	90.5	P/P	60 - 150
Linuron	94.3	95.4	P/P	60 - 150
Mandestrobin	99.5	104	P/P	50 - 150
MCPP	94.0	98.3	P/P	50 - 150
Naproxen	85.7	101	P/P	50 - 160
Primidone	99.1	97.4	P/P	60 - 150
Pyraclostrobin	102	102	P/P	60 - 150
Silvex	86.2	99.8	P/P	50 - 150
Thiamethoxam	100	104	P/P	50 - 150
Tolfenpyrad	94.0	98.9	P/P	60 - 150
Triclopyr	92.2	94.7	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A112330
Included Lab Sample IDs: 2328464

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	126	105	P/P	60 - 160
Endothall	91.2	91.5	P/P	60 - 160
Glufosinate	102	98.7	P/P	60 - 160
Glyphosate	97.5	99.5	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A112331
Included Lab Sample IDs: 2328464

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	159	153	P/P	60 - 160
Sucralose	108	107	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	71.0	80.9	72.4		11.2
	2,4,5-T	61.3	69.9	60.1		15.0
	Acesulfame K	149	123	118		3.98
	Acetaminophen	59.2	65.0	62.9		3.33
	Acetamiprid	91.9	90.5	88.3		2.47
	Afidopyropen	65.8	61.9	58.4		5.79
	AMPA	101	104	111		5.94
	Bentazon	138	176	143		17.1
	Benzovindiflupyr	85.8	100	87.0		14.0
	Carbamazepine	95.5	112	101		10.5
	Clothianidin	99.2	94.1	85.7		9.29
	Dinotefuran	96.6	114	102		10.9
	Diuron	81.8	97.3	88.1		10.0
	Endothall	83.8	88.1	89.5		1.58
	Fenuron	101	112	98.0		13.0
	Fluridone	71.4	83.4	75.6		8.14
	Glufosinate	102	95.8	89.4		6.87
	Glyphosate	100	94.2	94.1		0.121
	Hydrocodone	92.2	108	98.8		9.01
	Ibuprofen	70.8	69.7	62.9		10.3
	Imazapyr	84.9	94.5	82.2		13.1
	Imidacloprid	83.8	110	96.4		13.5
	Linuron	68.6	71.1	67.4		5.41
	Mandestrobin	75.8	77.9	73.4		5.93
	MCPP	93.6	102	82.2		21.4
	Naproxen	66.4	74.7	59.2		23.2
	Primidone	90.5	85.3	80.9		5.29
	Pyraclostrobin	81.1	92.4	84.4		8.97
	Silvex	56.9	65.8	56.4		15.5
	Sucralose	98.7	99.5	101		0.699
	Thiamethoxam	97.5	110	101		8.31
	Tolfenpyrad	44.6	54.2	47.1		14.1
	Triclopyr	66.6	75.3	62.8		18.1

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2328464

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	05/19/2022	05/19/2022 15:00	June Rhew	05/21/2022 12:35	Juyoung Kim	2328464
	05/19/2022	05/20/2022 14:00	Manjita Shrestha	05/21/2022 20:34	Manjita Shrestha	2328464
	05/19/2022	05/20/2022 14:00	Manjita Shrestha	05/22/2022 10:29	Manjita Shrestha	2328464