

Chemical Analysis Report

NW-DIST-2022-06-03-01

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

Event Description: **White Oak Bayou (J, J, A)**
Request ID: **RQ-2022-05-30-17**
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: Liang Lin, Environmental Administrator

Date Certified: 10-JUN-2022 13:31

A handwritten signature in black ink, appearing to read "Liang Lin", is written over a light-colored, textured background.

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: White Oak Bayou at end of Aegean Drive

Collection Date/Time: 06/02/2022 13:45

Field ID: G4NW0387

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2331660	EPA 8321B	2,4-D	0.0023	I	ug/L	P414735	
		Acesulfame K	0.10	U	ug/L	P414771	
		2,4,5-T	0.0040	U	ug/L	P414735	
		AMPA	0.10	U	ug/L	P414771	
		Acetaminophen	0.0080	U	ug/L	P414735	
		Acetamiprid	0.0020	U	ug/L	P414735	
		Endothall	0.25	U	ug/L	P414771	
		Glufosinate	0.10	U	ug/L	P414771	
		Glyphosate	0.10	U	ug/L	P414771	
		Afidopyropen	0.0020	U	ug/L	P414735	
		Bentazon	8.0E-04	U	ug/L	P414735	
		Sucralose	0.11		ug/L	P414771	
		Benzovindiflupyr	0.0020	U	ug/L	P414735	
		Carbamazepine	8.0E-04	U	ug/L	P414735	
		Clothianidin	0.0020	U	ug/L	P414735	
		Dinotefuran	0.0020	U	ug/L	P414735	
		Diuron	0.0020	U	ug/L	P414735	
		Fenuron	0.032	U	ug/L	P414735	
		Fluridone	8.0E-04	U	ug/L	P414735	
		Imazapyr	0.0040	U	ug/L	P414735	
		Hydrocodone	0.0020	U	ug/L	P414735	
		Ibuprofen	0.020	U	ug/L	P414735	
		Imidacloprid	0.0032	I	ug/L	P414735	
		Linuron	0.0040	U	ug/L	P414735	
		Mandestrobin	0.0020	U	ug/L	P414735	
		MCPP	0.0040	U	ug/L	P414735	
		Naproxen	0.0080	U	ug/L	P414735	
		Primidone	0.0040	U	ug/L	P414735	
		Pyraclostrobin	0.0020	U	ug/L	P414735	
		Silvex	0.0040	U	ug/L	P414735	
		Thiamethoxam	0.0020	U	ug/L	P414735	
		Tolfenpyrad	0.0020	U	ug/L	P414735	
		Triclopyr	0.0040	U	ug/L	P414735	

Ref. Method and Comment:

EPA 8321B: MS accuracy and precision for bentazon could not be assessed due to high concentration of parameter in the spiked sample. MS accuracy for some analytes 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: P414735

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: P414771

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: P414735

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	99.5		P	40 - 150
2,4,5-T	90.7		P	40 - 150
Acetaminophen	85.8		P	30 - 150
Acetamiprid	82.0		P	40 - 150
Afidopyropen	44.1		P	30 - 150
Bentazon	90.9		P	30 - 150
Benzovindiflupyr	90.9		P	40 - 150
Carbamazepine	97.5		P	40 - 150
Clothianidin	93.8		P	40 - 150
Dinotefuran	93.0		P	40 - 150
Diuron	79.0		P	40 - 150
Fenuron	90.4		P	40 - 150
Fluridone	82.8		P	40 - 150
Hydrocodone	88.6		P	40 - 150
Ibuprofen	83.6		P	40 - 150
Imazapyr	91.8		P	40 - 150
Imidacloprid	87.1		P	40 - 150
Linuron	71.9		P	40 - 150
Mandestrobin	79.7		P	40 - 150
MCPP	105		P	40 - 150
Naproxen	87.0		P	40 - 150
Primidone	95.1		P	40 - 150
Pyraclostrobin	87.4		P	40 - 150
Silvex	83.3		P	40 - 150
Thiamethoxam	89.1		P	40 - 150
Tolfenpyrad	53.2		P	30 - 150
Triclopyr	89.8		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P414771

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	140		P	40 - 150
AMPA	88.9		P	40 - 150
Endothall	75.1		P	40 - 150
Glufosinate	101		P	40 - 150
Glyphosate	90.7		P	40 - 150
Sucralose	113		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P414735

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2331275	2,4,5-T	104	97.2	P/P	40 - 150
2331275	Acetaminophen	110	110	P/P	30 - 150
2331275	Acetamiprid	83.9	75.6	P/P	40 - 150
2331275	Afidopyropen	46.4	47.8	P/P	30 - 150
2331275	Benzovindiflupyr	88.0	87.4	P/P	40 - 150
2331275	Carbamazepine	110	108	P/P	40 - 150
2331275	Clothianidin	119	118	P/P	40 - 150
2331275	Dinotefuran	135	130	P/P	40 - 150
2331275	Diuron	79.1	84.5	P/P	40 - 150
2331275	Fenuron	83.8	81.5	P/P	40 - 150
2331275	Fluridone	83.5	83.7	P/P	40 - 150
2331275	Hydrocodone	100	100	P/P	40 - 150
2331275	Ibuprofen	84.4	86.9	P/P	40 - 150
2331275	Imidacloprid	147	137	P/P	40 - 150
2331275	Linuron	69.7	72.7	P/P	40 - 150
2331275	Mandestrobin	83.7	82.5	P/P	40 - 150
2331275	MCCP	123	121	P/P	40 - 150
2331275	Naproxen	91.1	76.2	P/P	40 - 150
2331275	Primidone	118	117	P/P	40 - 150
2331275	Pyraclostrobin	83.6	77.5	P/P	40 - 150
2331275	Silvex	99.6	91.8	P/P	40 - 150
2331275	Thiamethoxam	140	134	P/P	40 - 150
2331275	Tolfenpyrad	57.0	53.6	P/P	30 - 150
2331275	Triclopyr	113	100	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P414771

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2331315	Acesulfame K	125	127	P/P	40 - 150
2331315	AMPA	67.0	61.8	P/P	40 - 150
2331315	Endothall	72.4	72.9	P/P	40 - 150
2331315	Glufosinate	92.8	82.8	P/P	40 - 150
2331315	Glyphosate	79.9	97.2	P/P	40 - 150
2331315	Sucralose	108	112	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P414735

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2331275	2,4-D	0.530	Spike	P	0 - 30
2331275	2,4,5-T	7.18	Spike	P	0 - 30
2331275	Acetaminophen	0.0692	Spike	P	0 - 30
2331275	Acetamiprid	10.4	Spike	P	0 - 30
2331275	Afidopyropen	3.15	Spike	P	0 - 30
2331275	Benzovindiflupyr	0.688	Spike	P	0 - 30
2331275	Carbamazepine	1.45	Spike	P	0 - 30
2331275	Clothianidin	0.345	Spike	P	0 - 30
2331275	Dinotefuran	3.11	Spike	P	0 - 30
2331275	Diuron	6.36	Spike	P	0 - 30
2331275	Fenuron	2.78	Spike	P	0 - 30
2331275	Fluridone	0.0989	Spike	P	0 - 30
2331275	Hydrocodone	0.0943	Spike	P	0 - 30
2331275	Ibuprofen	2.89	Spike	P	0 - 30
2331275	Imazapyr	0.196	Spike	P	0 - 30
2331275	Imidacloprid	5.86	Spike	P	0 - 30
2331275	Linuron	4.22	Spike	P	0 - 30
2331275	Mandestrobin	1.47	Spike	P	0 - 30
2331275	MCPP	1.14	Spike	P	0 - 30
2331275	Naproxen	17.8	Spike	P	0 - 30
2331275	Primidone	1.40	Spike	P	0 - 30
2331275	Pyraclostrobin	7.59	Spike	P	0 - 30
2331275	Silvex	8.15	Spike	P	0 - 30
2331275	Thiamethoxam	4.75	Spike	P	0 - 30
2331275	Tolfenpyrad	6.32	Spike	P	0 - 30
2331275	Triclopyr	11.9	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P414771

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2331315	Acesulfame K	1.58	Spike	P	0 - 30
2331315	AMPA	4.94	Spike	P	0 - 30
2331315	Endothall	0.753	Spike	P	0 - 30
2331315	Glufosinate	11.4	Spike	P	0 - 30
2331315	Glyphosate	9.62	Spike	P	0 - 30
2331315	Sucralose	3.90	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2331660

Field Sample ID: G4NW0387

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	118	P	30 - 160
EPA 8321B	Acetaminophen-d4	108	P	30 - 160
EPA 8321B	Carbamazepine-d10	108	P	30 - 160
EPA 8321B	Diuron-d6	67.3	P	30 - 160
EPA 8321B	Endothall-d6	87.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	59.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	78.8	P	30 - 160
EPA 8321B	Primidone-d5	105	P	30 - 160
EPA 8321B	Sucralose-d6	138	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A112660
Included Lab Sample IDs: 2331660

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	143	154	P/P	60 - 160
Sucralose	110	115	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A112661
Included Lab Sample IDs: 2331660

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	88.8	91.9	P/P	60 - 160
Endothall	70.5	67.5	P/P	60 - 160
Glufosinate	102	99.0	P/P	60 - 160
Glyphosate	92.9	95.0	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A112673
Included Lab Sample IDs: 2331660

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	94.0	95.1	P/P	50 - 150
2,4,5-T	98.5	99.5	P/P	50 - 150
Acetaminophen	103	104	P/P	60 - 160
Acetamiprid	104	103	P/P	50 - 150
Afidopyropen	97.9	97.0	P/P	50 - 150
Bentazon	106	101	P/P	50 - 160
Benzovindiflupyr	109	113	P/P	50 - 150
Carbamazepine	101	104	P/P	60 - 150
Clothianidin	102	107	P/P	60 - 150
Dinotefuran	102	102	P/P	50 - 150
Diuron	107	97.8	P/P	60 - 160
Fenuron	101	103	P/P	60 - 150
Fluridone	112	110	P/P	60 - 160
Hydrocodone	98.6	97.9	P/P	60 - 150
Ibuprofen	101	108	P/P	50 - 160
Imazapyr	98.5	91.7	P/P	50 - 150
Imidacloprid	96.3	97.2	P/P	60 - 150
Linuron	102	106	P/P	60 - 150
Mandestrobin	107	108	P/P	50 - 150
MCPP	88.7	93.6	P/P	50 - 150
Naproxen	101	105	P/P	50 - 160
Primidone	97.5	103	P/P	60 - 150
Pyraclostrobin	111	108	P/P	60 - 150
Silvex	99.1	94.1	P/P	50 - 150
Thiamethoxam	98.8	99.4	P/P	50 - 150
Tolfenpyrad	103	102	P/P	60 - 150
Triclopyr	92.7	96.7	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	99.5				0.530
	2,4,5-T	90.7	97.2	104		7.18
	Acesulfame K	140	125	127		1.58
	Acetaminophen	85.8	110	110		0.0692
	Acetamiprid	82.0	83.9	75.6		10.4
	Afidopyropen	44.1	46.4	47.8		3.15
	AMPA	88.9	67.0	61.8		4.94
	Bentazon	90.9				
	Benzovindiflupyr	90.9	87.4	88.0		0.688
	Carbamazepine	97.5	110	108		1.45
	Clothianidin	93.8	119	118		0.345
	Dinotefuran	93.0	135	130		3.11
	Diuron	79.0	79.1	84.5		6.36
	Endothall	75.1	72.4	72.9		0.753
	Fenuron	90.4	83.8	81.5		2.78
	Fluridone	82.8	83.7	83.5		0.0989
	Glufosinate	101	92.8	82.8		11.4
	Glyphosate	90.7	79.9	97.2		9.62
	Hydrocodone	88.6	100	100		0.0943
	Ibuprofen	83.6	86.9	84.4		2.89
	Imazapyr	91.8				0.196
	Imidacloprid	87.1	147	137		5.86
	Linuron	71.9	72.7	69.7		4.22
	Mandestrobin	79.7	82.5	83.7		1.47
	MCPP	105	121	123		1.14
	Naproxen	87.0	76.2	91.1		17.8
	Primidone	95.1	118	117		1.40
	Pyraclostrobin	87.4	77.5	83.6		7.59
	Silvex	83.3	91.8	99.6		8.15
	Sucralose	113	108	112		3.90
	Thiamethoxam	89.1	140	134		4.75
	Tolfenpyrad	53.2	53.6	57.0		6.32
	Triclopyr	89.8	100	113		11.9

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2331660

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	06/03/2022	06/06/2022 09:00	Hoor Shaik	06/07/2022 05:35	Juyoung Kim	2331660
	06/03/2022	06/07/2022 10:00	Umesh Chiluwal	06/07/2022 14:40	Umesh Chiluwal	2331660
	06/03/2022	06/07/2022 10:00	Umesh Chiluwal	06/07/2022 22:47	Umesh Chiluwal	2331660