

Chemical Analysis Report

CEN-DIST-2020-11-18-01

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

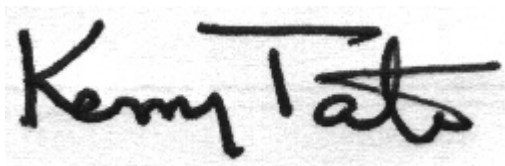
Event Description: **Lake George**
Request ID: **RQ-2020-11-09-34**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 09-DEC-2020 15:52

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

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: Lake George @ N of Center

Collection Date/Time: 11/17/2020 13:24

Field ID: G2CE0231

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2208440	EPA 8321B	2,4-D	0.032		ug/L	P390178	
		Acesulfame K**	0.10	U	ug/L	P390259	
		AMPA**	0.27	I	ug/L	P390259	
		Sucralose**	0.37		ug/L	P390259	
		Acetaminophen**	0.0080	U	ug/L	P390178	
		Acetamiprid**	0.0020	U	ug/L	P390178	
		Endothall**	0.25	U	ug/L	P390259	
		Glufosinate**	0.16	I	ug/L	P390259	
		Glyphosate**	0.10	U	ug/L	P390259	
		Afidopyropen**	0.0020	U	ug/L	P390178	
		Bentazon	0.084		ug/L	P390178	MS
		Benzovindiflupyr**	0.0020	U	ug/L	P390178	
		Carbamazepine**	8.0E-04	U	ug/L	P390178	
		Clothianidin**	0.0020	U	ug/L	P390178	
		Dinotefuran**	0.0020	U	ug/L	P390178	
		Diuron	0.0020	U	ug/L	P390178	
		Fenuron	0.016	U	ug/L	P390178	
		Fluridone**	0.0074		ug/L	P390178	
		Imazapyr**	0.15		ug/L	P390178	
		Hydrocodone**	0.0020	U	ug/L	P390178	
		Ibuprofen**	0.020	U	ug/L	P390178	
		Imidacloprid	0.0020	U	ug/L	P390178	
		Linuron	0.0040	U	ug/L	P390178	
		Mandestrobin**	0.0020	U	ug/L	P390178	
		MCPP	0.0020	U	ug/L	P390178	
		Naproxen**	0.0080	U	ug/L	P390178	
		Primidone**	0.0040	UJ	ug/L	P390178	SUR
		Pyraclostrobin**	0.0020	U	ug/L	P390178	
		Thiamethoxam**	0.0020	U	ug/L	P390178	
		Tolfenpyrad**	0.0020	U	ug/L	P390178	
		Triclopyr**	0.0040	U	ug/L	P390178	

Ref. Method and Comment:

EPA 8321B: "J" - estimation due to primidone-d5 surrogate spike recovery exceeding the control limits. Results confirmed in re-extraction. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P390178

Component	Result	Code	Units
2,4-D	0.0020	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	0.016	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
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P390259

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: P390178

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	78.9		P	30 - 160
Acetaminophen	78.9		P	30 - 150
Acetamiprid	84.0		P	30 - 160
Afidopyropen	73.6		P	30 - 160
Bentazon	44.6		P	30 - 150
Benzovindiflupyr	95.4		P	30 - 160
Carbamazepine	94.2		P	30 - 160
Clothianidin	86.5		P	30 - 160
Dinotefuran	84.2		P	30 - 160
Diuron	93.8		P	30 - 160
Fenuron	87.3		P	30 - 160
Fluridone	85.0		P	30 - 160
Hydrocodone	88.3		P	30 - 160
Ibuprofen	49.0		P	30 - 160
Imazapyr	88.9		P	30 - 160
Imidacloprid	74.3		P	30 - 160
Linuron	85.4		P	30 - 160
Mandestrobin	102		P	30 - 160
MCPP	88.0		P	30 - 160
Naproxen	68.0		P	30 - 160
Primidone	78.9		P	30 - 160
Pyraclostrobin	89.5		P	30 - 160
Thiamethoxam	97.4		P	30 - 160
Tolfenpyrad	60.1		P	30 - 160
Triclopyr	78.9		P	30 - 160

Reference Method: EPA 8321B

Batch ID: P390259

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	91.7		P	40 - 150
AMPA	95.2		P	40 - 150
Endothall	93.2		P	40 - 150
Glufosinate	104		P	40 - 150
Glyphosate	106		P	40 - 140
Sucralose	104		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P390178

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2208162	2,4-D	113	100	P/P	30 - 160
2208162	Acetaminophen	114	107	P/P	30 - 150
2208162	Acetamiprid	108	98.6	P/P	30 - 160
2208162	Afidopyropen	77.2	73.9	P/P	30 - 160
2208162	Bentazon	20.8	20.2	F/F	30 - 150
2208162	Benzovindiflupyr	112	108	P/P	30 - 160
2208162	Carbamazepine	80.6	101	P/P	30 - 160
2208162	Clothianidin	82.0	74.9	P/P	30 - 160
2208162	Dinotefuran	124	120	P/P	30 - 160
2208162	Diuron	114	109	P/P	30 - 160
2208162	Fenuron	108	112	P/P	30 - 160
2208162	Fluridone	105	95.5	P/P	30 - 160
2208162	Hydrocodone	109	112	P/P	30 - 160
2208162	Ibuprofen	64.8	75.9	P/P	30 - 160
2208162	Imazapyr	109	116	P/P	30 - 160
2208162	Imidacloprid	74.3	86.1	P/P	30 - 160
2208162	Linuron	104	103	P/P	30 - 160
2208162	Mandestrobin	114	125	P/P	30 - 160
2208162	MCP	95.8	90.3	P/P	30 - 160
2208162	Naproxen	119	112	P/P	30 - 160
2208162	Primidone	65.5	58.9	P/P	30 - 160
2208162	Pyraclostrobin	95.7	101	P/P	30 - 160
2208162	Thiamethoxam	102	110	P/P	30 - 160
2208162	Tolfenpyrad	60.9	76.1	P/P	30 - 160
2208162	Triclopyr	72.1	54.2	P/P	30 - 160

Reference Method: EPA 8321B

Batch ID: P390259

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2207938	Acesulfame K	105	101	P/P	40 - 150
2207938	AMPA	98.4	97.6	P/P	40 - 150
2207938	Endothall	112	116	P/P	40 - 150
2207938	Glufosinate	127	96.9	P/P	40 - 150
2207938	Glyphosate	86.3	93.3	P/P	40 - 140
2207938	Sucralose	114	120	P/P	40 - 150

Quality Assurance Report

Precision

Reference Method: EPA 8321B

Batch ID: P390178

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2208162	2,4-D	11.7	Spike	P	0 - 30
2208162	Acetaminophen	5.03	Spike	P	0 - 30
2208162	Acetamiprid	8.74	Spike	P	0 - 30
2208162	Afidopyropen	4.45	Spike	P	0 - 30
2208162	Bentazon	0.555	Spike	P	0 - 30
2208162	Benzovindiflupyr	4.21	Spike	P	0 - 30
2208162	Carbamazepine	12.9	Spike	P	0 - 30
2208162	Clothianidin	9.06	Spike	P	0 - 30
2208162	Dinotefuran	3.10	Spike	P	0 - 30
2208162	Diuron	4.15	Spike	P	0 - 30
2208162	Fenuron	3.62	Spike	P	0 - 30
2208162	Fluridone	8.69	Spike	P	0 - 30
2208162	Hydrocodone	2.13	Spike	P	0 - 30
2208162	Ibuprofen	15.8	Spike	P	0 - 30
2208162	Imazapyr	4.66	Spike	P	0 - 30
2208162	Imidacloprid	13.4	Spike	P	0 - 30
2208162	Linuron	0.802	Spike	P	0 - 30
2208162	Mandestrobin	9.53	Spike	P	0 - 30
2208162	MCPP	5.95	Spike	P	0 - 30
2208162	Naproxen	6.19	Spike	P	0 - 30
2208162	Primidone	10.6	Spike	P	0 - 30
2208162	Pyraclostrobin	5.04	Spike	P	0 - 30
2208162	Thiamethoxam	8.40	Spike	P	0 - 30
2208162	Tolfenpyrad	22.1	Spike	P	0 - 30
2208162	Triclopyr	28.4	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P390259

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2207938	Acesulfame K	3.60	Spike	P	0 - 30
2207938	AMPA	0.872	Spike	P	0 - 30
2207938	Endothall	3.21	Spike	P	0 - 30
2207938	Glufosinate	27.2	Spike	P	0 - 30
2207938	Glyphosate	7.83	Spike	P	0 - 30
2207938	Sucralose	4.87	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2208440
Field Sample ID: G2CE0231

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	150	P	30 - 160
EPA 8321B	Acetaminophen-d4	68.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	82.1	P	30 - 160
EPA 8321B	Diuron-d6	97.2	P	30 - 160
EPA 8321B	Endothall-d6	138	P	40 - 160
EPA 8321B	Endothall-d6	138	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	78.9	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	78.9	P	40 - 160
EPA 8321B	Ibuprofen-d3	48.3	P	30 - 160
EPA 8321B	Primidone-d5	23.6	F	30 - 160
EPA 8321B	Sucralose-d6	74.0	P	30 - 160
EPA 8321B	Sucralose-d6	74.0	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A102253
 Included Lab Sample IDs: 2208440

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	96.9	98.1	P/P	60 - 160
Glufosinate	107	121	P/P	60 - 160
Glyphosate	116	126	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A102256
 Included Lab Sample IDs: 2208440

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	85.4	65.9	P/P	60 - 160
Endothall	108	107	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A102296
 Included Lab Sample IDs: 2208440

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	107	89.1	P/P	50 - 150
Acetaminophen	131	121	P/P	60 - 160
Acetamiprid	128	125	P/P	50 - 150
Afidopyropen	92.1	123	P/P	50 - 150
Bentazon	88.4	99.2	P/P	50 - 160
Benzovindiflupyr	138	122	P/P	50 - 160
Carbamazepine	137	141	P/P	60 - 150
Clothianidin	91.5	96.7	P/P	60 - 150
Dinotefuran	122	121	P/P	50 - 150
Diuron	132	134	P/P	60 - 160
Fenuron	108	102	P/P	60 - 150
Fluridone	98.2	120	P/P	60 - 160
Hydrocodone	131	128	P/P	60 - 150
Ibuprofen	87.2	89.4	P/P	50 - 160
Imazapyr	77.2	91.3	P/P	50 - 150
Imidacloprid	86.5	91.6	P/P	60 - 150
Linuron	120	114	P/P	60 - 150
Mandestrobin	100	131	P/P	50 - 150
MCPP	101	97.2	P/P	50 - 150
Naproxen	126	101	P/P	50 - 160
Primidone	142	131	P/P	60 - 150
Pyraclostrobin	135	128	P/P	60 - 150
Thiamethoxam	122	119	P/P	50 - 150
Tolfenpyrad	147	149	P/P	60 - 150
Triclopyr	84.6	88.1	P/P	50 - 150

Reference Method: EPA 8321B
 Run ID: A102387
 Included Lab Sample IDs: 2208440

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	101	101	P/P	60 - 160

Quality Assurance Report

Calibration Verification

* 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	78.9	113	100		11.7
	Acesulfame K	91.7	105	101		3.60
	Acetaminophen	78.9	114	107		5.03
	Acetamiprid	84.0	108	98.6		8.74
	Afidopyropen	73.6	77.2	73.9		4.45
	AMPA	95.2	98.4	97.6		0.872
	Bentazon	44.6	20.8	20.2		0.555
	Benzovindiflupyr	95.4	112	108		4.21
	Carbamazepine	94.2	80.6	101		12.9
	Clothianidin	86.5	82.0	74.9		9.06
	Dinotefuran	84.2	124	120		3.10
	Diuron	93.8	114	109		4.15
	Endothall	93.2	112	116		3.21
	Fenuron	87.3	108	112		3.62
	Fluridone	85.0	105	95.5		8.69
	Glufosinate	104	127	96.9		27.2
	Glyphosate	106	86.3	93.3		7.83
	Hydrocodone	88.3	109	112		2.13
	Ibuprofen	49.0	64.8	75.9		15.8
	Imazapyr	88.9	109	116		4.66
	Imidacloprid	74.3	74.3	86.1		13.4
	Linuron	85.4	104	103		0.802
	Mandestrobin	102	114	125		9.53
	MCPP	88.0	95.8	90.3		5.95
	Naproxen	68.0	119	112		6.19
	Primidone	78.9	65.5	58.9		10.6
	Pyraclostrobin	89.5	95.7	101		5.04
	Sucralose	104	114	120		4.87
	Thiamethoxam	97.4	102	110		8.40
	Tolfenpyrad	60.1	60.9	76.1		22.1
	Triclopyr	78.9	72.1	54.2		28.4

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2208440
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2208440

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	11/18/2020	11/18/2020 13:00	Hoor Shaik	11/25/2020 09:31	Mohammad Ghaffari	2208440
	11/18/2020	11/19/2020 14:00	Rebecca Ware	11/19/2020 20:47	Rebecca Ware	2208440
	11/18/2020	11/19/2020 14:00	Rebecca Ware	11/20/2020 19:05	Rebecca Ware	2208440
	11/18/2020	11/19/2020 14:00	Rebecca Ware	12/01/2020 16:48	Rebecca Ware	2208440