

Chemical Analysis Report

NE-DIST-2022-04-14-03

Florida Department of Environmental Protection
Central Laboratory
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DOH Accreditation E31780

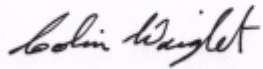
Event Description: **District Riggins Lake Project**
Request ID: **RQ-2022-04-11-65**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Jacksonville, FL 32256-7577
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Certified by: Colin Wright, Program Administrator

Date Certified: 29-APR-2022 11:38



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: Deerwood Inn / Campground WWTP

Collection Date/Time: 04/14/2022 11:35

Field ID: Deerwood Inn / Campground WWTP

Matrix: W-EFFLUENT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2319493	EPA 8321B	2,4-D	0.0051	I	ug/L	P412405	
		Acesulfame K	100		ug/L	P412362	
		2,4,5-T	0.32		ug/L	P412405	
		AMPA	0.42		ug/L	P412362	
		Acetaminophen	180		ug/L	P412405	
		Acetamiprid	0.0020	U	ug/L	P412405	
		Endothall	0.25	U	ug/L	P412362	
		Glufosinate	0.10	U	ug/L	P412362	
		Glyphosate	3.9		ug/L	P412362	
		Afidopyropen	0.0020	U	ug/L	P412405	
		Bentazon	8.0E-04	U	ug/L	P412405	
		Sucralose	120		ug/L	P412362	
		Benzovindiflupyr	0.0020	U	ug/L	P412405	
		Carbamazepine	8.8E-04	I	ug/L	P412405	
		Clothianidin	0.17		ug/L	P412405	
		Dinotefuran	0.55		ug/L	P412405	
		Diuron	0.0020	U	ug/L	P412405	
		Fenuron	0.016	U	ug/L	P412405	
		Fluridone	8.0E-04	U	ug/L	P412405	
		Imazapyr	0.0040	U	ug/L	P412405	
		Hydrocodone	0.063		ug/L	P412405	
		Ibuprofen	6.7		ug/L	P412405	
		Imidacloprid	0.19		ug/L	P412405	MS
		Linuron	0.0040	U	ug/L	P412405	
		Mandestrobin	0.0020	U	ug/L	P412405	
		MCPP	0.0040	I	ug/L	P412405	
		Naproxen	9.8		ug/L	P412405	RPD
		Primidone	2.9		ug/L	P412405	
		Pyraclostrobin	0.0020	U	ug/L	P412405	
		Silvex	0.0040	U	ug/L	P412405	
		Thiamethoxam	0.0021	I	ug/L	P412405	MS
		Tolfenpyrad	0.0020	U	ug/L	P412405	
		Triclopyr	0.39		ug/L	P412405	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P412362

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: P412405

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	0.016	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
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: P412362

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	86.9		P	40 - 150
AMPA	78.4		P	40 - 150
Endothall	97.4		P	40 - 150
Glufosinate	88.2		P	40 - 150
Glyphosate	95.5		P	40 - 150
Sucralose	74.7		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P412405

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	114		P	30 - 160
2,4,5-T	105		P	30 - 160
Acetaminophen	90.3		P	30 - 150
Acetamiprid	107		P	30 - 160
Afidopyropen	81.3		P	30 - 160
Bentazon	35.6		P	30 - 150
Benzovindiflupyr	80.4		P	30 - 160
Carbamazepine	108		P	30 - 160
Clothianidin	105		P	30 - 160
Dinotefuran	101		P	30 - 160
Diuron	86.9		P	30 - 160
Fenuron	97.8		P	30 - 160
Fluridone	101		P	30 - 160
Hydrocodone	93.1		P	30 - 160
Ibuprofen	80.2		P	30 - 160
Imazapyr	116		P	30 - 160
Imidacloprid	102		P	30 - 160
Linuron	73.9		P	30 - 160
Mandestrobin	97.6		P	30 - 160
MCPP	109		P	30 - 160
Naproxen	90.8		P	30 - 160
Primidone	90.3		P	30 - 160
Pyraclostrobin	80.7		P	30 - 160
Silvex	87.9		P	30 - 160
Thiamethoxam	102		P	30 - 160
Tolfenpyrad	52.9		P	30 - 160
Triclopyr	106		P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P412362

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318805	Acesulfame K	100	101	P/P	40 - 150
2318805	AMPA	64.9	65.0	P/P	40 - 150
2318805	Endothall	95.3	98.5	P/P	40 - 150
2318805	Glufosinate	77.7	80.9	P/P	40 - 150
2318805	Glyphosate	75.2	76.5	P/P	40 - 150
2318805	Sucralose	66.1	76.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P412405

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319182	2,4-D	96.2	77.6	P/P	30 - 160
2319182	2,4,5-T	84.1	84.3	P/P	30 - 160
2319182	Acetaminophen	110	102	P/P	30 - 150
2319182	Acetamiprid	124	119	P/P	30 - 160
2319182	Afidopyropen	106	86.7	P/P	30 - 160
2319182	Benzovindiflupyr	85.9	77.3	P/P	30 - 160
2319182	Carbamazepine	109	103	P/P	30 - 160
2319182	Clothianidin	128	126	P/P	30 - 160
2319182	Dinotefuran	135	126	P/P	30 - 160
2319182	Diuron	73.5	71.9	P/P	30 - 160
2319182	Fenuron	92.9	86.6	P/P	30 - 160
2319182	Fluridone	98.3	96.4	P/P	30 - 160
2319182	Hydrocodone	104	92.8	P/P	30 - 160
2319182	Ibuprofen	66.5	69.3	P/P	30 - 160
2319182	Imidacloprid	183	176	F/F	30 - 160
2319182	Linuron	67.7	62.2	P/P	30 - 160
2319182	Mandestrobin	102	92.3	P/P	30 - 160
2319182	MCP	95.5	97.3	P/P	30 - 160
2319182	Naproxen	72.7	50.5	P/P	30 - 160
2319182	Primidone	121	113	P/P	30 - 160
2319182	Pyraclostrobin	90.1	82.9	P/P	30 - 160
2319182	Silvex	90.2	77.3	P/P	30 - 160
2319182	Thiamethoxam	163	156	F/P	30 - 160
2319182	Tolfenpyrad	48.9	57.3	P/P	30 - 160
2319182	Triclopyr	86.5	89.4	P/P	30 - 160

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P412362

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318805	Acesulfame K	1.24	Spike	P	0 - 30
2318805	AMPA	0.0653	Spike	P	0 - 30
2318805	Endothall	3.37	Spike	P	0 - 30
2318805	Glufosinate	4.06	Spike	P	0 - 30
2318805	Glyphosate	1.68	Spike	P	0 - 30
2318805	Sucralose	13.9	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P412405

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319182	2,4-D	16.7	Spike	P	0 - 30
2319182	2,4,5-T	0.155	Spike	P	0 - 30
2319182	Acetaminophen	7.21	Spike	P	0 - 30
2319182	Acetamiprid	4.44	Spike	P	0 - 30
2319182	Afidopyropen	19.8	Spike	P	0 - 30
2319182	Bentazon	8.47	Spike	P	0 - 30
2319182	Benzovindiflupyr	10.6	Spike	P	0 - 30
2319182	Carbamazepine	6.26	Spike	P	0 - 30
2319182	Clothianidin	1.90	Spike	P	0 - 30
2319182	Dinotefuran	6.48	Spike	P	0 - 30
2319182	Diuron	1.95	Spike	P	0 - 30
2319182	Fenuron	7.05	Spike	P	0 - 30
2319182	Fluridone	1.65	Spike	P	0 - 30
2319182	Hydrocodone	11.0	Spike	P	0 - 30
2319182	Ibuprofen	4.01	Spike	P	0 - 30
2319182	Imazapyr	7.55	Spike	P	0 - 30
2319182	Imidacloprid	3.63	Spike	P	0 - 30
2319182	Linuron	8.51	Spike	P	0 - 30
2319182	Mandestrobin	9.61	Spike	P	0 - 30
2319182	MCPP	1.82	Spike	P	0 - 30
2319182	Naproxen	36.0	Spike	F	0 - 30
2319182	Primidone	7.01	Spike	P	0 - 30
2319182	Pyraclostrobin	8.36	Spike	P	0 - 30
2319182	Silvex	15.4	Spike	P	0 - 30
2319182	Thiamethoxam	4.47	Spike	P	0 - 30
2319182	Tolfenpyrad	15.8	Spike	P	0 - 30
2319182	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: 2319493

Field Sample ID: Deerwood Inn / Campground WWTP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	83.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	38.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	86.5	P	30 - 160
EPA 8321B	Diuron-d6	60.1	P	30 - 160
EPA 8321B	Endothall-d6	94.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	125	P	30 - 160
EPA 8321B	Ibuprofen-d3	72.9	P	30 - 160
EPA 8321B	Primidone-d5	72.8	P	30 - 160
EPA 8321B	Sucralose-d6	114	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A111606
Included Lab Sample IDs: 2319493

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	102	93.1	P/P	60 - 160
Sucralose	99.3	104	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A111607
Included Lab Sample IDs: 2319493

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	112	85.6	P/P	60 - 160
Endothall	130	103	P/P	60 - 160
Glufosinate	115	107	P/P	60 - 160
Glyphosate	127	107	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A111767
Included Lab Sample IDs: 2319493

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	80.5	72.5	P/P	50 - 150
2,4,5-T	76.0	93.8	P/P	50 - 150
Acetaminophen	87.3	103	P/P	60 - 160
Acetamiprid	98.4	97.1	P/P	50 - 150
Afidopyropen	80.8	74.5	P/P	50 - 150
Bentazon	95.7	95.5	P/P	50 - 160
Benzovindiflupyr	94.8	95.4	P/P	50 - 150
Carbamazepine	90.4	88.5	P/P	60 - 150
Clothianidin	89.3	107	P/P	60 - 150
Dinotefuran	75.2	87.3	P/P	50 - 150
Diuron	94.1	99.4	P/P	60 - 160
Fenuron	97.1	98.5	P/P	60 - 150
Fluridone	101	103	P/P	60 - 160
Hydrocodone	90.3	92.5	P/P	60 - 150
Ibuprofen	126	89.7	P/P	50 - 160
Imazapyr	80.4	84.9	P/P	50 - 150
Imidacloprid	92.7	90.6	P/P	60 - 150
Linuron	97.5	80.7	P/P	60 - 150
Mandestrobin	99.8	92.9	P/P	50 - 150
MCPP	85.4	73.8	P/P	50 - 150
Naproxen	73.5	85.2	P/P	50 - 160
Primidone	96.4	101	P/P	60 - 150
Pyraclostrobin	108	101	P/P	60 - 150
Silvex	77.5	78.8	P/P	50 - 150
Thiamethoxam	94.2	87.9	P/P	50 - 150
Tolfenpyrad	88.9	89.3	P/P	60 - 150
Triclopyr	82.5	89.2	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	114	96.2	77.6		16.7
	2,4,5-T	105	84.1	84.3		0.155
	Acesulfame K	86.9	100	101		1.24
	Acetaminophen	90.3	110	102		7.21
	Acetamiprid	107	124	119		4.44
	Afidopyropen	81.3	106	86.7		19.8
	AMPA	78.4	64.9	65.0		0.0653
	Bentazon	35.6				8.47
	Benzovindiflupyr	80.4	85.9	77.3		10.6
	Carbamazepine	108	109	103		6.26
	Clothianidin	105	128	126		1.90
	Dinotefuran	101	135	126		6.48
	Diuron	86.9	73.5	71.9		1.95
	Endothall	97.4	95.3	98.5		3.37
	Fenuron	97.8	92.9	86.6		7.05
	Fluridone	101	98.3	96.4		1.65
	Glufosinate	88.2	77.7	80.9		4.06
	Glyphosate	95.5	75.2	76.5		1.68
	Hydrocodone	93.1	104	92.8		11.0
	Ibuprofen	80.2	66.5	69.3		4.01
	Imazapyr	116				7.55
	Imidacloprid	102	183	176		3.63
	Linuron	73.9	67.7	62.2		8.51
	Mandestrobin	97.6	102	92.3		9.61
	MCPP	109	95.5	97.3		1.82
	Naproxen	90.8	72.7	50.5		36.0
	Primidone	90.3	121	113		7.01
	Pyraclostrobin	80.7	90.1	82.9		8.36
	Silvex	87.9	90.2	77.3		15.4
	Sucralose	74.7	66.1	76.6		13.9
	Thiamethoxam	102	163	156		4.47
	Tolfenpyrad	52.9	48.9	57.3		15.8
	Triclopyr	106	86.5	89.4		3.28

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2319493

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	04/14/2022	04/15/2022 10:00	Manjita Shrestha	04/15/2022 16:35	Manjita Shrestha	2319493
	04/14/2022	04/15/2022 10:00	Manjita Shrestha	04/19/2022 23:09	Manjita Shrestha	2319493
	04/14/2022	04/18/2022 09:00	Hoor Shaik	04/22/2022 13:20	Juyoung Kim	2319493
	04/14/2022	04/18/2022 09:00	Hoor Shaik	04/25/2022 10:47	Juyoung Kim	2319493
	04/14/2022	04/18/2022 09:00	Hoor Shaik	04/25/2022 11:21	Juyoung Kim	2319493
	04/14/2022	04/18/2022 09:00	Hoor Shaik	04/25/2022 14:15	Juyoung Kim	2319493