

Chemical Analysis Report

NE-DIST-2018-11-08-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
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DOH Accreditation E31780

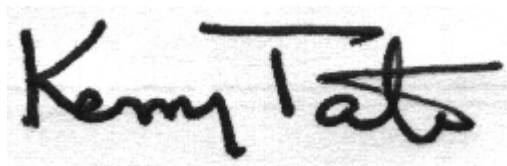
Event Description: **LSJR East 1**
Request ID: **RQ-2018-10-29-04**
Customer: **NE-DIST**
Project ID: **SMP**

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

Date Certified: 19-NOV-2018 11:18

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 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: GREENFIELD CREEK @ QUEENS HARBOUR BLVD

Collection Date/Time: 11/07/2018 11:00

Field ID: 20030809

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2040452	EPA 8321B	2,4-D	0.0020	U	ug/L	P354331	
		Bentazon	0.0054		ug/L	P354331	
		MCP	0.0078	I	ug/L	P354331	
		Triclopyr**	0.0040	U	ug/L	P354331	
		Imidacloprid	0.0056	I	ug/L	P354331	
		Diuron	0.0047	I	ug/L	P354331	
		Pyraclostrobin**	0.0020	U	ug/L	P354331	
		Primidone**	0.0040	U	ug/L	P354331	
		Linuron	0.0040	U	ug/L	P354331	
		Acetaminophen**	0.0080	U	ug/L	P354331	
		Fenuron	0.016	U	ug/L	P354331	
		Imazapyr**	0.097		ug/L	P354331	
		Carbamazepine**	8.0E-04	U	ug/L	P354331	
		Fluridone**	0.018		ug/L	P354331	
		Hydrocodone**	8.0E-04	U	ug/L	P354331	
		Naproxen**	0.0080	U	ug/L	P354331	
		Ibuprofen**	0.020	U	ug/L	P354331	
		Sucralose**	0.38		ug/L	P354426	
		Acesulfame K**	0.10	U	ug/L	P354426	

Ref. Method and Comment:

EPA 8321B: MS accuracy for imazapyr 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: P354331

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	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
MCP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P354426

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P354331

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	97.6		P	40 - 150
Acetaminophen	71.6		P	30 - 150
Bentazon	81.6		P	30 - 150
Carbamazepine	83.9		P	40 - 150
Diuron	67.3		P	40 - 150
Fenuron	95.9		P	40 - 150
Fluridone	83.4		P	40 - 150
Hydrocodone	93.1		P	40 - 150
Ibuprofen	105		P	40 - 150
Imazapyr	91.4		P	40 - 150
Imidacloprid	90.9		P	40 - 160
Linuron	70.7		P	40 - 150
MCPP	103		P	40 - 150
Naproxen	122		P	40 - 150
Primidone	87.7		P	40 - 150
Pyraclostrobin	68.1		P	40 - 150
Triclopyr	105		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P354426

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	80.3		P	40 - 150
Sucralose	98.5		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P354331

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2040338	2,4-D	125	138	P/P	40 - 150
2040338	Acetaminophen	73.7	81.4	P/P	30 - 150
2040338	Bentazon	45.4	46.2	P/P	30 - 150
2040338	Carbamazepine	65.1	74.2	P/P	40 - 150
2040338	Diuron	57.3	58.6	P/P	40 - 150
2040338	Fenuron	78.0	88.1	P/P	40 - 150
2040338	Fluridone	85.0	88.1	P/P	40 - 150
2040338	Hydrocodone	96.8	102	P/P	40 - 150
2040338	Ibuprofen	81.4	69.5	P/P	40 - 150
2040338	Imidacloprid	154	144	P/P	40 - 160
2040338	Linuron	61.9	62.6	P/P	40 - 150
2040338	MCP	144	134	P/P	40 - 150
2040338	Naproxen	87.4	90.5	P/P	40 - 150
2040338	Primidone	88.8	77.7	P/P	40 - 150
2040338	Pyraclostrobin	70.3	73.5	P/P	40 - 150
2040338	Triclopyr	139	143	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P354426

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2040338	Acesulfame K	103	95.0	P/P	40 - 150
2040338	Sucralose	113	114	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P354331

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2040338	2,4-D	7.21	Spike	P	0 - 30
2040338	Acetaminophen	9.89	Spike	P	0 - 30
2040338	Bentazon	0.973	Spike	P	0 - 30
2040338	Carbamazepine	12.8	Spike	P	0 - 30
2040338	Diuron	2.15	Spike	P	0 - 30
2040338	Fenuron	12.2	Spike	P	0 - 30
2040338	Fluridone	3.39	Spike	P	0 - 30
2040338	Hydrocodone	4.90	Spike	P	0 - 30
2040338	Ibuprofen	15.7	Spike	P	0 - 30
2040338	Imazapyr	2.48	Spike	P	0 - 30
2040338	Imidacloprid	5.71	Spike	P	0 - 30
2040338	Linuron	1.09	Spike	P	0 - 30
2040338	MCP	7.39	Spike	P	0 - 30
2040338	Naproxen	3.49	Spike	P	0 - 30
2040338	Primidone	12.6	Spike	P	0 - 30
2040338	Pyraclostrobin	4.41	Spike	P	0 - 30
2040338	Triclopyr	2.80	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P354426

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2040338	Acesulfame K	8.09	Spike	P	0 - 30
2040338	Sucralose	0.468	Spike	P	0 - 30

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Surrogates

Lab Sample ID: 2040452
Field Sample ID: 20030809

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	130	P	30 - 160
EPA 8321B	Acetaminophen-d4	89.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	72.6	P	30 - 160
EPA 8321B	Diuron-d6	66.6	P	30 - 160
EPA 8321B	Endothall-d6	81.1	P	40 - 160
EPA 8321B	Ibuprofen-d3	100	P	30 - 160
EPA 8321B	Primidone-d5	87.9	P	30 - 160
EPA 8321B	Sucralose-d6	114	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A87692
Included Lab Sample IDs: 2040452

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	112	114	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A87732
Included Lab Sample IDs: 2040452

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	72.4	62.6	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A87745
Included Lab Sample IDs: 2040452

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	90.4	105	P/P	50 - 150
Acetaminophen	75.0	77.3	P/P	60 - 160
Bentazon	91.9	82.1	P/P	50 - 160
Carbamazepine	106	105	P/P	60 - 160
Diuron	99.1	97.1	P/P	60 - 150
Fenuron	91.1	91.6	P/P	60 - 150
Fluridone	95.3	98.7	P/P	60 - 160
Hydrocodone	99.0	79.0	P/P	60 - 150
Ibuprofen	129	140	P/P	50 - 160
Imazapyr	107	84.9	P/P	50 - 150
Imidacloprid	73.4	85.7	P/P	60 - 160
Linuron	101	96.5	P/P	60 - 150
MCPP	94.6	96.2	P/P	50 - 150
Naproxen	85.7	134	P/P	50 - 160
Primidone	94.9	101	P/P	60 - 160
Pyraclostrobin	105	103	P/P	60 - 150
Triclopyr	105	99.2	P/P	50 - 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	97.6	125	138		7.21
	Acesulfame K	80.3	103	95.0		8.09
	Acetaminophen	71.6	73.7	81.4		9.89
	Bentazon	81.6	45.4	46.2		0.973
	Carbamazepine	83.9	65.1	74.2		12.8
	Diuron	67.3	57.3	58.6		2.15
	Fenuron	95.9	78.0	88.1		12.2
	Fluridone	83.4	85.0	88.1		3.39
	Hydrocodone	93.1	96.8	102		4.90
	Ibuprofen	105	81.4	69.5		15.7
	Imazapyr	91.4				2.48
	Imidacloprid	90.9	154	144		5.71
	Linuron	70.7	61.9	62.6		1.09
	MCP	103	144	134		7.39
	Naproxen	122	87.4	90.5		3.49
	Primidone	87.7	88.8	77.7		12.6
	Pyraclostrobin	68.1	70.3	73.5		4.41
	Sucralose	98.5	113	114		0.468
	Triclopyr	105	139	143		2.80

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2040452

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	11/08/2018	11/09/2018 07:45	Mohammad Ghaffari	11/09/2018 10:40	Mohammad Ghaffari	2040452
	11/08/2018	11/09/2018 07:45	Mohammad Ghaffari	11/13/2018 14:59	Rebecca Ware	2040452
	11/08/2018	11/13/2018 10:00	Hoor Shaik	11/14/2018 11:14	Juyoung Kim	2040452
	11/08/2018	11/13/2018 10:00	Hoor Shaik	11/15/2018 00:29	Juyoung Kim	2040452