

Chemical Analysis Report

SO-DIST-2018-08-16-01

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

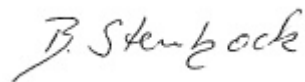
Event Description: **D.T. Sara**
Request ID: **RQ-2018-08-13-27**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
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FLDEP South District Office
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Date Certified: 10-SEP-2018 14:54



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: Walker Creek @ 32nd St

Collection Date/Time: 08/15/2018 10:10

Field ID: G3SD0094

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2017677	EPA 8321B	2,4-D	0.011		ug/L	P350331	
		Bentazon	0.0083		ug/L	P350331	
		MCP	0.0059	IJ	ug/L	P350331	RPD
		Triclopyr**	0.0040	UJ	ug/L	P350331	RPD
		Imidacloprid	0.017		ug/L	P350331	
		Diuron	0.043		ug/L	P350331	
		Pyraclostrobin**	0.0020	U	ug/L	P350331	
		Primidone**	0.0057	I	ug/L	P350331	
		Linuron	0.0040	U	ug/L	P350331	
		Acetaminophen**	0.0080	U	ug/L	P350331	
		Fenuron	0.016	U	ug/L	P350331	
		Imazapyr**	0.60		ug/L	P350331	
		Carbamazepine**	0.0022	I	ug/L	P350331	
		Fluridone**	0.028		ug/L	P350331	
		Hydrocodone**	8.0E-04	U	ug/L	P350331	
		Naproxen**	0.0080	U	ug/L	P350331	
		Ibuprofen**	0.020	U	ug/L	P350331	
		Sucralose**	0.55		ug/L	P350234	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes. Refer to the narrative for an explanation of QC Codes.

Sample Location: WALKER CREEK @ 32ND ST

Collection Date/Time: 08/15/2018 10:15

Field ID: G3SD0094_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2017678	EPA 8321B	2,4-D	0.011		ug/L	P350331	
		Bentazon	0.0086		ug/L	P350331	
		MCP	0.0051	IJ	ug/L	P350331	RPD
		Triclopyr**	0.0040	UJ	ug/L	P350331	RPD
		Imidacloprid	0.016		ug/L	P350331	
		Diuron	0.040		ug/L	P350331	
		Pyraclostrobin**	0.0020	U	ug/L	P350331	
		Primidone**	0.0051	I	ug/L	P350331	
		Linuron	0.0040	U	ug/L	P350331	
		Acetaminophen**	0.0080	U	ug/L	P350331	
		Fenuron	0.016	U	ug/L	P350331	
		Imazapyr**	0.60		ug/L	P350331	
		Carbamazepine**	0.0022	I	ug/L	P350331	
		Fluridone**	0.025		ug/L	P350331	
		Hydrocodone**	8.0E-04	U	ug/L	P350331	
		Naproxen**	0.0080	U	ug/L	P350331	
		Ibuprofen**	0.020	U	ug/L	P350331	
		Sucralose**	0.55		ug/L	P350234	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes. Results confirmed in re-extraction. Refer to the narrative for an explanation of QC Codes.

Sample Location: Whitaker @ Museum Pier

Collection Date/Time: 08/15/2018 10:40

Field ID: G3SD0105

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2017679	EPA 8321B	2,4-D	0.011		ug/L	P350331	
		Bentazon	0.0052		ug/L	P350331	
		MCP	0.0020	UJ	ug/L	P350331	RPD
		Triclopyr**	0.0040	UJ	ug/L	P350331	RPD
		Imidacloprid	0.012		ug/L	P350331	
		Diuron	0.014		ug/L	P350331	
		Pyraclostrobin**	0.0020	U	ug/L	P350331	
		Primidone**	0.0040	U	ug/L	P350331	
		Linuron	0.0040	U	ug/L	P350331	
		Acetaminophen**	0.0080	U	ug/L	P350331	
		Fenuron	0.016	U	ug/L	P350331	
		Imazapyr**	0.14		ug/L	P350331	
		Carbamazepine**	8.0E-04	U	ug/L	P350331	
		Fluridone**	0.0073		ug/L	P350331	
		Hydrocodone**	8.0E-04	U	ug/L	P350331	
		Naproxen**	0.0080	U	ug/L	P350331	
		Ibuprofen**	0.020	U	ug/L	P350331	
		Sucralose**	0.21		ug/L	P350234	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes. Refer to the narrative for an explanation of QC Codes.

Sample Location: DrainToHudson @ShadeAve

Collection Date/Time: 08/15/2018 11:15

Field ID: G3SD0134

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2017680	EPA 8321B	2,4-D	0.052		ug/L	P350331	
		Bentazon	0.0023	I	ug/L	P350331	
		MCP	0.0020	UJ	ug/L	P350331	RPD
		Triclopyr**	0.0040	UJ	ug/L	P350331	RPD
		Imidacloprid	0.021		ug/L	P350331	
		Diuron	0.0069	I	ug/L	P350331	
		Pyraclostrobin**	0.0020	U	ug/L	P350331	
		Primidone**	0.0040	U	ug/L	P350331	
		Linuron	0.0040	U	ug/L	P350331	
		Acetaminophen**	0.0080	U	ug/L	P350331	
		Fenuron	0.016	I	ug/L	P350331	
		Imazapyr**	0.88		ug/L	P350331	
		Carbamazepine**	8.0E-04	U	ug/L	P350331	
		Fluridone**	0.0011	I	ug/L	P350331	
		Hydrocodone**	8.0E-04	U	ug/L	P350331	
		Naproxen**	0.0080	U	ug/L	P350331	
		Ibuprofen**	0.020	U	ug/L	P350331	
		Sucralose**	0.24		ug/L	P350234	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes. Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P350234

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P350331

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
MCPP	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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
 Batch ID: P350234

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	107		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P350331

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	101	75.1	P/P	40 - 150
Acetaminophen	131	113	P/P	30 - 150
Bentazon	110	99.5	P/P	30 - 150
Carbamazepine	92.3	90.0	P/P	40 - 150
Diuron	91.6	95.4	P/P	40 - 150
Fenuron	117	107	P/P	40 - 150
Fluridone	79.5	76.8	P/P	40 - 150
Hydrocodone	105	101	P/P	40 - 150
Ibuprofen	88.3	81.8	P/P	40 - 150
Imazapyr	102	98.2	P/P	40 - 150
Imidacloprid	113	106	P/P	40 - 160
Linuron	76.1	74.7	P/P	40 - 150
MCPP	109	72.1	P/P	40 - 150
Naproxen	93.1	70.1	P/P	40 - 150
Primidone	109	108	P/P	40 - 150
Pyraclostrobin	78.9	74.0	P/P	40 - 150
Triclopyr	100	64.7	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P350234

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2017129	Sucralose	109	105	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P350234

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2017129	Sucralose	3.80	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P350331

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	2,4-D	29.6	LCS	P	0 - 30
LFB	Acetaminophen	15.4	LCS	P	0 - 30
LFB	Bentazon	10.3	LCS	P	0 - 30
LFB	Carbamazepine	2.51	LCS	P	0 - 30
LFB	Diuron	4.14	LCS	P	0 - 30
LFB	Fenuron	8.57	LCS	P	0 - 30
LFB	Fluridone	3.51	LCS	P	0 - 30
LFB	Hydrocodone	3.72	LCS	P	0 - 30
LFB	Ibuprofen	7.63	LCS	P	0 - 30
LFB	Imazapyr	4.06	LCS	P	0 - 30
LFB	Imidacloprid	6.58	LCS	P	0 - 30
LFB	Linuron	1.81	LCS	P	0 - 30
LFB	MCP	40.5	LCS	F	0 - 30
LFB	Naproxen	28.2	LCS	P	0 - 30
LFB	Primidone	1.36	LCS	P	0 - 30
LFB	Pyraclostrobin	6.43	LCS	P	0 - 30
LFB	Triclopyr	42.9	LCS	F	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: 2017677
Field Sample ID: G3SD0094

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	102	P	30 - 160
EPA 8321B	Acetaminophen-d4	140	P	30 - 160
EPA 8321B	Carbamazepine-d10	60.6	P	30 - 160
EPA 8321B	Diuron-d6	70.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	84.4	P	30 - 160
EPA 8321B	Primidone-d5	88.6	P	30 - 160
EPA 8321B	Sucralose-d6	94.2	P	40 - 160

Lab Sample ID: 2017678
Field Sample ID: G3SD0094_DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	105	P	30 - 160
EPA 8321B	Acetaminophen-d4	123	P	30 - 160
EPA 8321B	Carbamazepine-d10	57.8	P	30 - 160
EPA 8321B	Diuron-d6	64.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	80.5	P	30 - 160
EPA 8321B	Primidone-d5	83.2	P	30 - 160
EPA 8321B	Sucralose-d6	94.4	P	40 - 160

Lab Sample ID: 2017679
Field Sample ID: G3SD0105

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	145	P	30 - 160
EPA 8321B	Acetaminophen-d4	128	P	30 - 160
EPA 8321B	Carbamazepine-d10	67.0	P	30 - 160
EPA 8321B	Diuron-d6	74.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	76.4	P	30 - 160
EPA 8321B	Primidone-d5	98.8	P	30 - 160
EPA 8321B	Sucralose-d6	94.1	P	40 - 160

Lab Sample ID: 2017680
Field Sample ID: G3SD0134

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	87.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	141	P	30 - 160
EPA 8321B	Carbamazepine-d10	60.4	P	30 - 160
EPA 8321B	Diuron-d6	66.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	75.7	P	30 - 160
EPA 8321B	Primidone-d5	104	P	30 - 160
EPA 8321B	Sucralose-d6	94.3	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A85983

Included Lab Sample IDs: 2017677, 2017678, 2017679, 2017680

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	92.5	96.8	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A86112

Included Lab Sample IDs: 2017677, 2017678, 2017679, 2017680

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	100	106	P/P	50 - 150
2,4-D	98.9	100	P/P	50 - 150
Bentazon	113	139	P/P	50 - 160
Bentazon	139	150	P/P	50 - 160
Ibuprofen	86.6	117	P/P	50 - 160
Ibuprofen	97.9	86.6	P/P	50 - 160
MCP	104	111	P/P	50 - 150
MCP	111	112	P/P	50 - 150
Naproxen	108	90.5	P/P	50 - 160
Naproxen	90.5	84.8	P/P	50 - 160
Triclopyr	88.9	93.2	P/P	50 - 160
Triclopyr	93.2	97.8	P/P	50 - 160

Reference Method: EPA 8321B

Run ID: A86195

Included Lab Sample IDs: 2017677, 2017678, 2017679, 2017680

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	117	106	P/P	60 - 150
Acetaminophen	117	117	P/P	60 - 150
Carbamazepine	101	99.5	P/P	60 - 150
Carbamazepine	99.5	100	P/P	60 - 150
Diuron	120	119	P/P	60 - 150
Diuron	127	120	P/P	60 - 150
Fenuron	108	109	P/P	60 - 150
Fenuron	109	108	P/P	60 - 150
Fluridone	110	111	P/P	60 - 160
Fluridone	112	110	P/P	60 - 160
Hydrocodone	113	110	P/P	60 - 150
Hydrocodone	114	113	P/P	60 - 150
Imazapyr	109	99.8	P/P	50 - 150
Imazapyr	99.8	95.9	P/P	50 - 150
Imidacloprid	111	109	P/P	60 - 150
Imidacloprid	117	111	P/P	60 - 150
Linuron	104	107	P/P	60 - 150
Linuron	107	104	P/P	60 - 150
Primidone	112	100	P/P	60 - 150
Primidone	119	112	P/P	60 - 150
Pyraclostrobin	101	94.5	P/P	60 - 150
Pyraclostrobin	94.5	96.6	P/P	60 - 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		LCS	Precision SMP	MS
EPA 8321B	2,4-D	101	75.1			29.6		
	Acetaminophen	131	113			15.4		
	Bentazon	110	99.5			10.3		
	Carbamazepine	92.3	90.0			2.51		
	Diuron	91.6	95.4			4.14		
	Fenuron	117	107			8.57		
	Fluridone	79.5	76.8			3.51		
	Hydrocodone	105	101			3.72		
	Ibuprofen	88.3	81.8			7.63		
	Imazapyr	102	98.2			4.06		
	Imidacloprid	113	106			6.58		
	Linuron	76.1	74.7			1.81		
	MCPP	109	72.1			40.5		
	Naproxen	93.1	70.1			28.2		
	Primidone	109	108			1.36		
	Pyraclostrobin	78.9	74.0			6.43		
	Sucralose	107		109	105			3.80
	Triclopyr	100	64.7			42.9		

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2017677, 2017678, 2017679, 2017680

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	08/16/2018	08/17/2018 09:00	Mohammad Ghaffari	08/18/2018 04:47	Mohammad Ghaffari	2017677
	08/16/2018	08/17/2018 09:00	Mohammad Ghaffari	08/18/2018 05:01	Mohammad Ghaffari	2017678
	08/16/2018	08/17/2018 09:00	Mohammad Ghaffari	08/18/2018 05:16	Mohammad Ghaffari	2017679
	08/16/2018	08/17/2018 09:00	Mohammad Ghaffari	08/18/2018 05:31	Mohammad Ghaffari	2017680
	08/16/2018	08/21/2018 15:00	Hoor Shaik	08/25/2018 04:49	Juyoung Kim	2017677
	08/16/2018	08/21/2018 15:00	Hoor Shaik	08/25/2018 05:24	Juyoung Kim	2017678
	08/16/2018	08/21/2018 15:00	Hoor Shaik	08/25/2018 05:58	Juyoung Kim	2017679
	08/16/2018	08/21/2018 15:00	Hoor Shaik	08/25/2018 07:07	Juyoung Kim	2017680
	08/16/2018	08/21/2018 15:00	Hoor Shaik	08/25/2018 15:05	Juyoung Kim	2017677
	08/16/2018	08/21/2018 15:00	Hoor Shaik	08/25/2018 15:39	Juyoung Kim	2017678
	08/16/2018	08/21/2018 15:00	Hoor Shaik	08/25/2018 16:14	Juyoung Kim	2017679
	08/16/2018	08/21/2018 15:00	Hoor Shaik	08/25/2018 17:23	Juyoung Kim	2017680