

Chemical Analysis Report

TLH-ROC-2018-03-27-04

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

Event Description: **b/t/m PCR-FILTER**
Request ID: **RQ-2018-01-15-20**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
Tallahassee, FL 32399
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 09-APR-2018 12:43



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: MULE CREEK @ SR12

Collection Date/Time: 03/27/2018 10:55

Field ID: G1TLHR0063

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1978254	EPA 8321B	2,4-D	0.0020	U	ug/L	P342346	
		Sucralose**	0.010	U	ug/L	P342413	
		Bentazon	8.0E-04	U	ug/L	P342346	
		MCP	0.0020	U	ug/L	P342346	
		Triclopyr**	0.0040	U	ug/L	P342346	
		Imidacloprid	0.0020	UJ	ug/L	P342346	MS
		Diuron	0.0020	U	ug/L	P342346	
		Pyraclostrobin**	0.0020	U	ug/L	P342346	
		Primidone**	0.0040	U	ug/L	P342346	
		Linuron	0.0040	U	ug/L	P342346	
		Acetaminophen**	0.0080	U	ug/L	P342346	
		Fenuron	0.016	U	ug/L	P342346	
		Imazapyr**	0.017		ug/L	P342346	
		Carbamazepine**	4.0E-04	U	ug/L	P342346	
		Fluridone**	8.0E-04	U	ug/L	P342346	

Ref. Method and Comment:

EPA 8321B: Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P342346

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	4.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	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
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B

Batch ID: P342413

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P342346

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	78.9		P	40 - 150
Acetaminophen	112		P	30 - 150
Bentazon	74.4		P	30 - 150
Carbamazepine	75.8		P	40 - 150
Diuron	68.2		P	40 - 150
Fenuron	111		P	40 - 150
Fluridone	60.0		P	40 - 150
Imazapyr	69.0		P	40 - 150
Imidacloprid	93.9		P	40 - 160
Linuron	80.2		P	40 - 150
MCP	74.3		P	40 - 150
Primidone	115		P	40 - 150
Pyraclostrobin	68.3		P	40 - 150
Triclopyr	79.2		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P342413

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	92.6		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P342346

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1978254	2,4-D	114	130	P/P	40 - 150
1978254	Acetaminophen	126	126	P/P	30 - 150
1978254	Bentazon	48.5	53.2	P/P	30 - 150
1978254	Carbamazepine	101	96.7	P/P	40 - 150
1978254	Diuron	82.4	82.5	P/P	40 - 150
1978254	Fenuron	106	106	P/P	40 - 150
1978254	Fluridone	65.7	62.4	P/P	40 - 150
1978254	Imazapyr	73.6	63.9	P/P	40 - 150
1978254	Imidacloprid	164	162	F/F	40 - 160
1978254	Linuron	87.6	85.6	P/P	40 - 150
1978254	MCP	95.0	103	P/P	40 - 150
1978254	Primidone	118	121	P/P	40 - 150
1978254	Pyraclostrobin	83.1	75.5	P/P	40 - 150
1978254	Triclopyr	97.7	108	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P342413

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1977124	Sucralose	101	103	P/P	40 - 150

Quality Assurance Report Precision

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P342346

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1978254	2,4-D	13.0	Spike	P	0 - 30
1978254	Acetaminophen	0.0791	Spike	P	0 - 30
1978254	Bentazon	9.20	Spike	P	0 - 30
1978254	Carbamazepine	4.68	Spike	P	0 - 30
1978254	Diuron	0.0243	Spike	P	0 - 30
1978254	Fenuron	0.189	Spike	P	0 - 30
1978254	Fluridone	5.21	Spike	P	0 - 30
1978254	Imazapyr	10.7	Spike	P	0 - 30
1978254	Imidacloprid	0.983	Spike	P	0 - 30
1978254	Linuron	2.25	Spike	P	0 - 30
1978254	MCP	8.17	Spike	P	0 - 30
1978254	Primidone	1.92	Spike	P	0 - 30
1978254	Pyraclostrobin	9.50	Spike	P	0 - 30
1978254	Triclopyr	10.2	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P342413

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977124	Sucralose	2.25	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: 1978254
Field Sample ID: G1TLHR0063

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	125	P	30 - 160
EPA 8321B	Acetaminophen-d4	121	P	30 - 160
EPA 8321B	Carbamazepine-d10	114	P	30 - 160
EPA 8321B	Diuron-d6	84.6	P	30 - 160
EPA 8321B	Primidone-d5	115	P	30 - 160
EPA 8321B	Sucralose-d6	87.1	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A82969
Included Lab Sample IDs: 1978254

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	77.4	86.3	P/P	50 - 150
Acetaminophen	108	104	P/P	60 - 150
Bentazon	88.0	89.0	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A82969
Included Lab Sample IDs: 1978254

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Carbamazepine	109	103	P/P	60 - 150
Diuron	117	120	P/P	60 - 150
Fenuron	112	110	P/P	60 - 150
Fluridone	112	109	P/P	60 - 160
Imazapyr	102	87.5	P/P	50 - 150
Imidacloprid	118	107	P/P	60 - 150
Linuron	117	121	P/P	60 - 150
MCPP	87.6	92.4	P/P	50 - 150
Primidone	104	107	P/P	60 - 150
Pyraclostrobin	117	119	P/P	60 - 150
Triclopyr	90.2	90.5	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A83032
Included Lab Sample IDs: 1978254

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	113	99.4	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	78.9	114 130			13.0
	Acetaminophen	112	126 126			0.0791
	Bentazon	74.4	48.5 53.2			9.20
	Carbamazepine	75.8	101 96.7			4.68
	Diuron	68.2	82.4 82.5			0.0243
	Fenuron	111	106 106			0.189
	Fluridone	60.0	65.7 62.4			5.21
	Imazapyr	69.0	73.6 63.9			10.7
	Imidacloprid	93.9	164 162			0.983
	Linuron	80.2	87.6 85.6			2.25
	MCPP	74.3	95.0 103			8.17
	Primidone	115	118 121			1.92
	Pyraclostrobin	68.3	83.1 75.5			9.50
	Sucralose	92.6	101 103			2.25
	Triclopyr	79.2	97.7 108			10.2

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1978254
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1978254

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	03/27/2018	03/29/2018	Hoor Shaik	03/30/2018	Julie Michelle Frank	1978254
	03/27/2018	03/30/2018	Julie Michelle Frank	03/30/2018	Mohammad Ghaffari	1978254