

Chemical Analysis Report

WQAP-2017-10-02-01

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

Event Description: **SMP 2017 kit_b/t/m PCR-FILTER / PCR-HF183 / (811
Ocklawaha Creek)**
Request ID: **RQ-2017-09-25-27**
Customer: **WQAP**
Project ID: **SMP**

Send Reports to:
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2600 Blair Stone Rd
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Attn: Michael Eckles

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 12-OCT-2017 11:16



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: Sweetwater Branch @ Cody Church Rd

Collection Date/Time: 10/02/2017 10:45

Field ID: G1TLHR0040-2017-07

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1933153	EPA 8321B	Sucralose**	0.010	U	ug/L	P332452	MS
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P332453	
		Diuron	8.0E-04	U	ug/L	P332453	
		Fenuron	0.0080	U	ug/L	P332453	
		Imidacloprid	8.0E-04	U	ug/L	P332453	
		Bentazon	8.0E-04	U	ug/L	P332453	
		Linuron	0.0040	U	ug/L	P332453	
		Acetaminophen**	0.0080	U	ug/L	P332453	
		MCP	0.0020	U	ug/L	P332453	
		Carbamazepine**	4.0E-04	U	ug/L	P332453	
		Triclopyr**	0.0040	U	ug/L	P332453	
		Primidone**	0.0040	U	ug/L	P332453	
		Fluridone**	4.0E-04	U	ug/L	P332453	

Ref. Method and Comment:

USGS O-2060-01: MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Lake Overstreet Drain @ N Meridian Rd

Collection Date/Time: 10/02/2017 12:10

Field ID: G1TLHR0069-2017-06

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1933154	EPA 8321B	Sucralose**	0.010	U	ug/L	P332452	MS
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P332453	
		Diuron	8.0E-04	U	ug/L	P332453	
		Fenuron	0.0080	U	ug/L	P332453	
		Imidacloprid	8.0E-04	U	ug/L	P332453	
		Bentazon	8.0E-04	U	ug/L	P332453	
		Linuron	0.0040	U	ug/L	P332453	
		Acetaminophen**	0.0080	U	ug/L	P332453	
		MCP	0.0020	U	ug/L	P332453	
		Carbamazepine**	4.0E-04	U	ug/L	P332453	
		Triclopyr**	0.0040	U	ug/L	P332453	
		Primidone**	0.0040	U	ug/L	P332453	
		Fluridone**	4.0E-04	U	ug/L	P332453	

Ref. Method and Comment:

USGS O-2060-01: MS accuracy for imidacloprid 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: P332452

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: USGS O-2060-01
 Batch ID: P332453

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	8.0E-04	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
MCP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
 Batch ID: P332452

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	77.3		P	40 - 150

Reference Method: USGS O-2060-01
 Batch ID: P332453

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	69.0		P	40 - 150
Acetaminophen	99.8		P	30 - 150
Bentazon	45.4		P	40 - 150
Carbamazepine	110		P	40 - 150
Diuron	99.9		P	40 - 150
Fenuron	104		P	40 - 150
Fluridone	101		P	40 - 150
Imidacloprid	99.9		P	40 - 160
Linuron	98.8		P	40 - 150
MCP	68.5		P	40 - 150
Primidone	103		P	40 - 150
Triclopyr	68.9		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P332452

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1932875	Sucralose	149	85.4	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
Batch ID: P332453

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1932874	2,4-D	62.2	67.3	P/P	40 - 150
1932874	Acetaminophen	76.5	84.4	P/P	30 - 150
1932874	Bentazon	30.0	36.6	F/F	40 - 150
1932874	Carbamazepine	80.6	84.2	P/P	40 - 150
1932874	Diuron	63.6	64.9	P/P	40 - 150
1932874	Fenuron	77.9	83.3	P/P	40 - 150
1932874	Fluridone	59.2	50.5	P/P	40 - 150
1932874	Linuron	86.6	88.2	P/P	40 - 150
1932874	MCP	50.8	53.2	P/P	40 - 150
1932874	Primidone	86.2	87.6	P/P	40 - 150
1932874	Triclopyr	47.3	48.7	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P332452

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1932875	Sucralose	27.7	Spike	P	0 - 30

Reference Method: USGS O-2060-01
Batch ID: P332453

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1932874	2,4-D	7.10	Spike	P	0 - 30
1932874	Acetaminophen	9.89	Spike	P	0 - 30
1932874	Bentazon	7.20	Spike	P	0 - 30
1932874	Carbamazepine	4.42	Spike	P	0 - 30
1932874	Diuron	1.06	Spike	P	0 - 30
1932874	Fenuron	6.75	Spike	P	0 - 30
1932874	Fluridone	10.3	Spike	P	0 - 30
1932874	Imidacloprid	2.85	Spike	P	0 - 30
1932874	Linuron	1.78	Spike	P	0 - 30
1932874	MCP	4.73	Spike	P	0 - 30
1932874	Primidone	1.63	Spike	P	0 - 30
1932874	Triclopyr	2.79	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: 1933153
Field Sample ID: G1TLHR0040-2017-07

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	68.4	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1933153

Field Sample ID: G1TLHR0040-2017-07

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbamazepine-d10	89.2	P	30 - 160
EPA 8321B	Diuron-d6	67.7	P	30 - 160
EPA 8321B	Primidone-d5	91.1	P	30 - 160
EPA 8321B	Sucralose-d6	82.6	P	40 - 160
USGS O-2060-01	2,4-D-d3	59.0	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	68.4	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	89.2	P	30 - 160
USGS O-2060-01	Diuron-d6	67.7	P	30 - 160
USGS O-2060-01	Primidone-d5	91.1	P	30 - 160
USGS O-2060-01	Sucralose-d6	82.6	P	40 - 160

Lab Sample ID: 1933154

Field Sample ID: G1TLHR0069-2017-06

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	101	P	30 - 160
EPA 8321B	Carbamazepine-d10	125	P	30 - 160
EPA 8321B	Diuron-d6	93.0	P	30 - 160
EPA 8321B	Primidone-d5	108	P	30 - 160
EPA 8321B	Sucralose-d6	68.8	P	40 - 160
USGS O-2060-01	2,4-D-d3	59.2	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	101	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	125	P	30 - 160
USGS O-2060-01	Diuron-d6	93.0	P	30 - 160
USGS O-2060-01	Primidone-d5	108	P	30 - 160
USGS O-2060-01	Sucralose-d6	68.8	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01

Run ID: A79377

Included Lab Sample IDs: 1933153, 1933154

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	105	107	P/P	50 - 150
Acetaminophen	105	103	P/P	60 - 150
Bentazon	118	112	P/P	50 - 150
Carbamazepine	109	110	P/P	60 - 150
Diuron	100	107	P/P	60 - 150
Fenuron	102	104	P/P	60 - 150
Fluridone	105	103	P/P	60 - 160
Imidacloprid	96.9	97.0	P/P	60 - 150
Linuron	103	102	P/P	60 - 150
MCP	96.8	97.2	P/P	50 - 150
Primidone	84.0	95.6	P/P	60 - 150
Triclopyr	101	99.8	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A79445

Included Lab Sample IDs: 1933153, 1933154

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	105	107	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	Sucralose	77.3	149 85.4			27.7
USGS O-2060-01	2,4-D	69.0	62.2 67.3			7.10
	Acetaminophen	99.8	76.5 84.4			9.89
	Bentazon	45.4	30.0 36.6			7.20
	Carbamazepine	110	80.6 84.2			4.42
	Diuron	99.9	63.6 64.9			1.06
	Fenuron	104	77.9 83.3			6.75
	Fluridone	101	59.2 50.5			10.3
	Imidacloprid	99.9				2.85
	Linuron	98.8	86.6 88.2			1.78
	MCP	68.5	50.8 53.2			4.73
	Primidone	103	86.2 87.6			1.63
	Triclopyr	68.9	47.3 48.7			2.79

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1933153, 1933154
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1933153, 1933154
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1933153, 1933154

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	10/02/2017	10/04/2017	Hoor Shaik	10/06/2017	Juyoung Kim	1933153, 1933154
USGS O-2060-01	10/02/2017	10/04/2017	Hoor Shaik	10/08/2017	Julie Michelle Frank	1933153, 1933154