

Chemical Analysis Report

WQAP-2017-07-19-01

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

Event Description: **B/T/M only**
Request ID: **RQ-2017-04-17-32**
Customer: **WQAP**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
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Attn: Michael Eckles

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Certified by: Colin Wright, Program Administrator

Date Certified: 10-AUG-2017 11:55

A handwritten signature in black ink, appearing to read "Colin Wright", is written over a light gray rectangular background.

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: HARVEY CREEK @ HWY 20

Collection Date/Time: 07/19/2017 10:45

Field ID: G1TLHR0058-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1914664	EPA 8321B	Sucralose**	0.010	U	ug/L	P328764	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P328838	
		Diuron	8.0E-04	U	ug/L	P328838	
		Fenuron	0.0080	U	ug/L	P328838	
		Imidacloprid	8.0E-04	U	ug/L	P328838	MS
		Bentazon	8.0E-04	U	ug/L	P328838	
		Linuron	0.0040	U	ug/L	P328838	
		Acetaminophen**	0.0080	U	ug/L	P328838	
		MCP	0.0020	U	ug/L	P328838	
		Carbamazepine**	4.0E-04	U	ug/L	P328838	
		Triclopyr**	0.0040	U	ug/L	P328838	
		Primidone**	0.0040	U	ug/L	P328838	
		Fluridone**	4.0E-04	U	ug/L	P328838	

Ref. Method and Comment:

USGS O-2060-01: MS accuracy for 2,4-D 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: P328764

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: USGS O-2060-01

Batch ID: P328838

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: P328764

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	85.0		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
Batch ID: P328838

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	107		P	40 - 150
Acetaminophen	99.9		P	30 - 150
Bentazon	103		P	40 - 150
Carbamazepine	120		P	40 - 150
Diuron	122		P	40 - 150
Fenuron	111		P	40 - 150
Fluridone	113		P	40 - 150
Imidacloprid	119		P	40 - 160
Linuron	112		P	40 - 150
MCP	105		P	40 - 150
Primidone	97.7		P	40 - 150
Triclopyr	94.2		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P328764

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914460	Sucralose	98.8	99.2	P/P	40 - 150

Reference Method: USGS O-2060-01
Batch ID: P328838

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914598	Acetaminophen	128	132	P/P	30 - 150
1914598	Bentazon	56.7	61.2	P/P	40 - 150
1914598	Carbamazepine	118	124	P/P	40 - 150
1914598	Diuron	90.3	84.6	P/P	40 - 150
1914598	Fenuron	91.8	92.6	P/P	40 - 150
1914598	Fluridone	52.7	52.7	P/P	40 - 150
1914598	Imidacloprid	178	178	F/F	40 - 160
1914598	Linuron	84.8	84.8	P/P	40 - 150
1914598	MCP	126	120	P/P	40 - 150
1914598	Primidone	102	115	P/P	40 - 150
1914598	Triclopyr	100	103	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P328764

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914460	Sucralose	0.371	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P328838

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914598	2,4-D	10.7	Spike	P	0 - 30
1914598	Acetaminophen	2.96	Spike	P	0 - 30
1914598	Bentazon	7.20	Spike	P	0 - 30
1914598	Carbamazepine	5.31	Spike	P	0 - 30
1914598	Diuron	4.57	Spike	P	0 - 30
1914598	Fenuron	0.846	Spike	P	0 - 30
1914598	Fluridone	0.0320	Spike	P	0 - 30
1914598	Imidacloprid	0.348	Spike	P	0 - 30
1914598	Linuron	0.0707	Spike	P	0 - 30
1914598	MCP	5.08	Spike	P	0 - 30
1914598	Primidone	11.7	Spike	P	0 - 30
1914598	Triclopyr	3.23	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: 1914664
Field Sample ID: G1TLHR0058-2017-04

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	95.6	P	40 - 160
USGS O-2060-01	2,4-D-d3	145	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	144	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	102	P	30 - 160
USGS O-2060-01	Diuron-d6	78.3	P	30 - 160
USGS O-2060-01	Primidone-d5	76.6	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A78008
Included Lab Sample IDs: 1914664

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	90.3	88.1	P/P	60 - 160

Reference Method: USGS O-2060-01
Run ID: A78113
Included Lab Sample IDs: 1914664

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	113	110	P/P	50 - 150
Acetaminophen	133	111	P/P	60 - 150
Bentazon	129	97.6	P/P	50 - 150
Carbamazepine	116	103	P/P	60 - 150
Diuron	128	119	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01
Run ID: A78113
Included Lab Sample IDs: 1914664

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fenuron	128	115	P/P	60 - 150
Fluridone	124	106	P/P	60 - 160
Imidacloprid	116	113	P/P	60 - 150
Linuron	108	129	P/P	60 - 150
MCPP	110	108	P/P	50 - 150
Primidone	137	102	P/P	60 - 150
Triclopyr	107	87.2	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	LCS	Precision SMP	MS
EPA 8321B	Sucralose	85.0	98.8 99.2			0.371
USGS O-2060-01	2,4-D	107				10.7
	Acetaminophen	99.9	128 132			2.96
	Bentazon	103	56.7 61.2			7.20
	Carbamazepine	120	124 118			5.31
	Diuron	122	84.6 90.3			4.57
	Fenuron	111	92.6 91.8			0.846
	Fluridone	113	52.7 52.7			0.0320
	Imidacloprid	119	178 178			0.348
	Linuron	112	84.8 84.8			0.0707
	MCPP	105	126 120			5.08
	Primidone	97.7	115 102			11.7
	Triclopyr	94.2	100 103			3.23

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1914664
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1914664
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1914664

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	07/19/2017	07/26/2017	Julie Michelle Frank	07/27/2017	Mohammad Ghaffari	1914664
USGS O-2060-01	07/19/2017	07/21/2017	Hoor Shaik	07/30/2017	Juyoung Kim	1914664