

Chemical Analysis Report

TLH-ROC-2018-01-24-02

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
Attn: Michael Eckles

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 02-FEB-2018 11:20



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 @ JOE THOMAS RD

Collection Date/Time: 01/24/2018 12:35

Field ID: G1TLHR0082

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1961842	EPA 8321B	Sucralose**	0.010	U	ug/L	P338739	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P338701	
		Diuron	0.0020	U	ug/L	P338701	
		Fenuron	0.0080	U	ug/L	P338701	
		Imidacloprid	0.0020	U	ug/L	P338701	MS
		Bentazon	8.0E-04	U	ug/L	P338701	
		Linuron	0.0040	U	ug/L	P338701	
		Acetaminophen**	0.0080	U	ug/L	P338701	
		MCP	0.0020	U	ug/L	P338701	
		Carbamazepine**	4.0E-04	U	ug/L	P338701	
		Triclopyr**	0.0040	U	ug/L	P338701	
		Primidone**	0.0040	U	ug/L	P338701	
		Fluridone**	4.0E-04	U	ug/L	P338701	

Sample Location: HARVEY CREEK @ HWY 20

Collection Date/Time: 01/24/2018 12:50

Field ID: G1TLHR0058

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1961843	EPA 8321B	Sucralose**	0.036	I	ug/L	P338739	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P338701	
		Diuron	0.0020	U	ug/L	P338701	
		Fenuron	0.0080	U	ug/L	P338701	
		Imidacloprid	0.0026	I	ug/L	P338701	MS
		Bentazon	8.0E-04	U	ug/L	P338701	
		Linuron	0.0040	U	ug/L	P338701	
		Acetaminophen**	0.0080	U	ug/L	P338701	
		MCP	0.0020	U	ug/L	P338701	
		Carbamazepine**	4.0E-04	U	ug/L	P338701	
		Triclopyr**	0.0040	U	ug/L	P338701	
		Primidone**	0.0040	U	ug/L	P338701	
		Fluridone**	4.0E-04	U	ug/L	P338701	

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P338739

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: USGS O-2060-01
Batch ID: P338701

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: USGS O-2060-01
Batch ID: P338701

Component	Result	Code	Units
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	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: P338739

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	111		P	40 - 150

Reference Method: USGS O-2060-01
Batch ID: P338701

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	76.3		P	40 - 150
Acetaminophen	102		P	30 - 150
Bentazon	79.7		P	30 - 150
Carbamazepine	106		P	40 - 150
Diuron	92.8		P	40 - 150
Fenuron	120		P	40 - 150
Fluridone	112		P	40 - 150
Imidacloprid	115		P	40 - 160
Linuron	103		P	40 - 150
MCPP	77.2		P	40 - 150
Primidone	118		P	40 - 150
Triclopyr	76.1		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P338739

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1961510	Sucralose	100	119	P/P	40 - 150

Reference Method: USGS O-2060-01
Batch ID: P338701

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1961605	2,4-D	123	118	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
Batch ID: P338701

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1961605	Acetaminophen	138	137	P/P	30 - 150
1961605	Bentazon	67.7	66.5	P/P	30 - 150
1961605	Carbamazepine	118	122	P/P	40 - 150
1961605	Diuron	102	103	P/P	40 - 150
1961605	Fenuron	105	108	P/P	40 - 150
1961605	Fluridone	104	110	P/P	40 - 150
1961605	Imidacloprid	196	189	F/F	40 - 160
1961605	Linuron	105	108	P/P	40 - 150
1961605	MCP	95.4	91.8	P/P	40 - 150
1961605	Primidone	123	125	P/P	40 - 150
1961605	Triclopyr	105	99.8	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P338739

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961510	Sucralose	14.1	Spike	P	0 - 30

Reference Method: USGS O-2060-01
Batch ID: P338701

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961605	2,4-D	4.40	Spike	P	0 - 30
1961605	Acetaminophen	1.09	Spike	P	0 - 30
1961605	Bentazon	1.79	Spike	P	0 - 30
1961605	Carbamazepine	2.50	Spike	P	0 - 30
1961605	Diuron	1.36	Spike	P	0 - 30
1961605	Fenuron	3.20	Spike	P	0 - 30
1961605	Fluridone	5.77	Spike	P	0 - 30
1961605	Imidacloprid	3.48	Spike	P	0 - 30
1961605	Linuron	2.35	Spike	P	0 - 30
1961605	MCP	3.85	Spike	P	0 - 30
1961605	Primidone	1.29	Spike	P	0 - 30
1961605	Triclopyr	5.25	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: 1961842
Field Sample ID: G1TLHR0082

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	89.6	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1961842
Field Sample ID: G1TLHR0082

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbamazepine-d10	96.1	P	30 - 160
EPA 8321B	Diuron-d6	83.8	P	30 - 160
EPA 8321B	Primidone-d5	109	P	30 - 160
EPA 8321B	Sucralose-d6	118	P	40 - 160
USGS O-2060-01	2,4-D-d3	71.8	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	89.6	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	96.1	P	30 - 160
USGS O-2060-01	Diuron-d6	83.8	P	30 - 160
USGS O-2060-01	Primidone-d5	109	P	30 - 160
USGS O-2060-01	Sucralose-d6	118	P	40 - 160

Lab Sample ID: 1961843
Field Sample ID: G1TLHR0058

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	104	P	30 - 160
EPA 8321B	Carbamazepine-d10	98.4	P	30 - 160
EPA 8321B	Diuron-d6	86.6	P	30 - 160
EPA 8321B	Primidone-d5	122	P	30 - 160
EPA 8321B	Sucralose-d6	96.1	P	40 - 160
USGS O-2060-01	2,4-D-d3	77.9	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	104	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	98.4	P	30 - 160
USGS O-2060-01	Diuron-d6	86.6	P	30 - 160
USGS O-2060-01	Primidone-d5	122	P	30 - 160
USGS O-2060-01	Sucralose-d6	96.1	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01
Run ID: A81671
Included Lab Sample IDs: 1961842, 1961843

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	92.0	102	P/P	50 - 150
Acetaminophen	103	109	P/P	60 - 150
Bentazon	104	101	P/P	50 - 150
Carbamazepine	107	110	P/P	60 - 150
Diuron	109	114	P/P	60 - 150
Fenuron	111	110	P/P	60 - 150
Fluridone	121	121	P/P	60 - 160
Imidacloprid	109	98.2	P/P	60 - 150
Linuron	114	113	P/P	60 - 150
MCPP	88.5	95.5	P/P	50 - 150
Primidone	116	104	P/P	60 - 150
Triclopyr	90.7	99.6	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A81727

Included Lab Sample IDs: 1961842, 1961843

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	114	103	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	111	100	119		14.1
USGS O-2060-01	2,4-D	76.3	118	123		4.40
	Acetaminophen	102	138	137		1.09
	Bentazon	79.7	66.5	67.7		1.79
	Carbamazepine	106	118	122		2.50
	Diuron	92.8	102	103		1.36
	Fenuron	120	105	108		3.20
	Fluridone	112	104	110		5.77
	Imidacloprid	115	196	189		3.48
	Linuron	103	105	108		2.35
	MCP	77.2	91.8	95.4		3.85
	Primidone	118	123	125		1.29
	Triclopyr	76.1	99.8	105		5.25

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1961842, 1961843
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1961842, 1961843
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1961842, 1961843

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	01/24/2018	01/26/2018	Juyoung Kim	01/26/2018	Juyoung Kim	1961842, 1961843
USGS O-2060-01	01/24/2018	01/25/2018	Hoor Shaik	01/26/2018	Julie Michelle Frank	1961842, 1961843
	01/24/2018	01/25/2018	Hoor Shaik	01/27/2018	Julie Michelle Frank	1961842, 1961843