

Chemical Analysis Report

WQAP-2017-11-16-03

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

Event Description: **Pinellas LR2**
Request ID: **RQ-2017-11-13-60**
Customer: **WQAP**
Project ID: **SMP**

Send Reports to:
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13051 N. Telecom Parkway
Tampa, FL 33637
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 04-DEC-2017 12:56



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: BEE BRANCH

Collection Date/Time: 11/15/2017 12:05

Field ID: G5SW0133

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1947030	EPA 8321B	Sucralose**	8.1		ug/L	P335618	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P335388	MS
		Diuron	0.0022	I	ug/L	P335388	
		Fenuron	0.0080	U	ug/L	P335388	
		Imidacloprid	0.020		ug/L	P335388	
		Bentazon	0.12		ug/L	P335388	MS
		Linuron	0.0040	U	ug/L	P335388	
		Acetaminophen**	0.0080	U	ug/L	P335388	
		MCP	0.0022	I	ug/L	P335388	
		Carbamazepine**	0.0056		ug/L	P335388	
		Triclopyr**	0.0040	U	ug/L	P335388	
		Primidone**	0.013	I	ug/L	P335388	RPD
		Fluridone**	0.25		ug/L	P335388	

Sample Location: CURFEW CRK (FRESH)

Collection Date/Time: 11/15/2017 11:48

Field ID: G5SW0132

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1947031	EPA 8321B	Sucralose**	19		ug/L	P335618	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P335388	MS
		Diuron	0.0090		ug/L	P335388	
		Fenuron	0.0080	U	ug/L	P335388	
		Imidacloprid	0.065		ug/L	P335388	
		Bentazon	0.022		ug/L	P335388	MS
		Linuron	0.0040	U	ug/L	P335388	
		Acetaminophen**	0.0080	U	ug/L	P335388	
		MCP	0.0020	U	ug/L	P335388	
		Carbamazepine**	0.059		ug/L	P335388	
		Triclopyr**	0.0040	U	ug/L	P335388	
		Primidone**	0.065		ug/L	P335388	RPD
		Fluridone**	0.021		ug/L	P335388	

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P335618

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: USGS O-2060-01
Batch ID: P335388

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: P335388

Component	Result	Code	Units
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: P335618

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

Reference Method: USGS O-2060-01
Batch ID: P335388

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	62.2		P	40 - 150
Acetaminophen	91.4		P	30 - 150
Bentazon	36.9		P	30 - 150
Carbamazepine	94.5		P	40 - 150
Diuron	86.1		P	40 - 150
Fenuron	76.5		P	40 - 150
Fluridone	85.7		P	40 - 150
Imidacloprid	77.2		P	40 - 160
Linuron	78.7		P	40 - 150
MCP	68.2		P	40 - 150
Primidone	70.7		P	40 - 150
Triclopyr	69.0		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P335618

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1947129	Sucralose	111	108	P/P	40 - 150

Reference Method: USGS O-2060-01
Batch ID: P335388

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946711	2,4-D	35.3	42.2	F/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
Batch ID: P335388

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946711	Acetaminophen	54.7	68.1	P/P	30 - 150
1946711	Bentazon	20.8	24.6	F/F	30 - 150
1946711	Carbamazepine	79.4	99.6	P/P	40 - 150
1946711	Diuron	54.9	72.3	P/P	40 - 150
1946711	Fenuron	62.8	73.2	P/P	40 - 150
1946711	Fluridone	70.6	83.1	P/P	40 - 150
1946711	Imidacloprid	92.0	119	P/P	40 - 160
1946711	Linuron	69.8	86.2	P/P	40 - 150
1946711	MCP	44.5	52.2	P/P	40 - 150
1946711	Primidone	64.2	93.5	P/P	40 - 150
1946711	Triclopyr	46.2	54.4	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P335618

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1947129	Sucralose	2.46	Spike	P	0 - 30

Reference Method: USGS O-2060-01
Batch ID: P335388

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946711	2,4-D	17.8	Spike	P	0 - 30
1946711	Acetaminophen	21.8	Spike	P	0 - 30
1946711	Bentazon	17.1	Spike	P	0 - 30
1946711	Carbamazepine	22.4	Spike	P	0 - 30
1946711	Diuron	27.4	Spike	P	0 - 30
1946711	Fenuron	15.4	Spike	P	0 - 30
1946711	Fluridone	16.2	Spike	P	0 - 30
1946711	Imidacloprid	25.3	Spike	P	0 - 30
1946711	Linuron	21.0	Spike	P	0 - 30
1946711	MCP	15.9	Spike	P	0 - 30
1946711	Primidone	37.2	Spike	F	0 - 30
1946711	Triclopyr	16.3	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: 1947030
Field Sample ID: G5SW0133

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	86.1	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1947030
 Field Sample ID: G5SW0133

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbamazepine-d10	76.2	P	30 - 160
EPA 8321B	Diuron-d6	51.8	P	30 - 160
EPA 8321B	Primidone-d5	73.0	P	30 - 160
EPA 8321B	Sucralose-d6	159	P	40 - 160
USGS O-2060-01	2,4-D-d3	40.7	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	86.1	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	76.2	P	30 - 160
USGS O-2060-01	Diuron-d6	51.8	P	30 - 160
USGS O-2060-01	Primidone-d5	73.0	P	30 - 160
USGS O-2060-01	Sucralose-d6	159	P	40 - 160

Lab Sample ID: 1947031
 Field Sample ID: G5SW0132

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	110	P	30 - 160
EPA 8321B	Carbamazepine-d10	75.4	P	30 - 160
EPA 8321B	Diuron-d6	51.4	P	30 - 160
EPA 8321B	Primidone-d5	68.8	P	30 - 160
EPA 8321B	Sucralose-d6	140	P	40 - 160
USGS O-2060-01	2,4-D-d3	38.8	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	110	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	75.4	P	30 - 160
USGS O-2060-01	Diuron-d6	51.4	P	30 - 160
USGS O-2060-01	Primidone-d5	68.8	P	30 - 160
USGS O-2060-01	Sucralose-d6	140	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01
 Run ID: A80485
 Included Lab Sample IDs: 1947030, 1947031

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	74.3	80.2	P/P	50 - 150
Acetaminophen	87.5	89.4	P/P	60 - 150
Bentazon	109	110	P/P	50 - 150
Carbamazepine	102	106	P/P	60 - 150
Diuron	89.2	80.0	P/P	60 - 150
Fenuron	86.1	82.2	P/P	60 - 150
Fluridone	108	105	P/P	60 - 160
Imidacloprid	77.8	76.8	P/P	60 - 150
Linuron	99.2	96.7	P/P	60 - 150
MCPD	90.3	82.0	P/P	50 - 150
Primidone	78.0	74.2	P/P	60 - 150
Triclopyr	86.6	83.7	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A80568

Included Lab Sample IDs: 1947030, 1947031

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	128	118	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	103	111 108			2.46
USGS O-2060-01	2,4-D	62.2	35.3 42.2			17.8
	Acetaminophen	91.4	54.7 68.1			21.8
	Bentazon	36.9	20.8 24.6			17.1
	Carbamazepine	94.5	79.4 99.6			22.4
	Diuron	86.1	54.9 72.3			27.4
	Fenuron	76.5	62.8 73.2			15.4
	Fluridone	85.7	70.6 83.1			16.2
	Imidacloprid	77.2	92.0 119			25.3
	Linuron	78.7	69.8 86.2			21.0
	MCP	68.2	44.5 52.2			15.9
	Primidone	70.7	64.2 93.5			37.2
	Triclopyr	69.0	46.2 54.4			16.3

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1947030, 1947031
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1947030, 1947031
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1947030, 1947031

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	11/16/2017	11/22/2017	Mohammad Ghaffari	11/29/2017	Mohammad Ghaffari	1947030, 1947031
USGS O-2060-01	11/16/2017	11/20/2017	Hoor Shaik	11/22/2017	Mohammad Ghaffari	1947030, 1947031