

Chemical Analysis Report

SW-DIST-2018-01-30-01

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

Event Description: **Baker ECOLI #1**
Request ID: **RQ-2018-01-29-69**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Attn: Ben Paswater

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 16-FEB-2018 10:29



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: BAKER CREEK

Collection Date/Time: 01/29/2018 11:20

Field ID: G2SW0012

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1962805	EPA 8321B	2,4-D	0.022		ug/L	P339013	
		Sucralose**	0.42		ug/L	P339293	
		Bentazon	0.0070		ug/L	P339013	MS
		MCP	0.0020	U	ug/L	P339013	MS
		Triclopyr**	0.0040	U	ug/L	P339013	
		Imidacloprid	0.036		ug/L	P339013	
		Diuron	0.022		ug/L	P339013	
		Pyraclostrobin**	0.67		ug/L	P339013	
		Primidone**	0.0040	U	ug/L	P339013	
		Linuron	0.0040	U	ug/L	P339013	
		Acetaminophen**	0.0080	U	ug/L	P339013	
		Fenuron	0.075		ug/L	P339013	
		Carbamazepine**	9.7E-04	I	ug/L	P339013	
		Fluridone**	0.0030		ug/L	P339013	

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P339013

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	0.0080	U	ug/L
Fluridone	4.0E-04	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
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B

Batch ID: P339293

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P339013

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	74.4		P	40 - 150
Acetaminophen	80.0		P	30 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
 Batch ID: P339013

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bentazon	105		P	30 - 150
Carbamazepine	80.7		P	40 - 150
Diuron	63.0		P	40 - 150
Fenuron	86.5		P	40 - 150
Fluridone	73.0		P	40 - 150
Imidacloprid	85.9		P	40 - 160
Linuron	74.0		P	40 - 150
MCPP	75.2		P	40 - 150
Primidone	94.0		P	40 - 150
Triclopyr	72.0		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P339293

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	93.2		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P339013

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1962854	2,4-D	51.1	54.2	P/P	40 - 150
1962854	Acetaminophen	117	91.0	P/P	30 - 150
1962854	Bentazon	20.5	20.9	F/F	30 - 150
1962854	Carbamazepine	69.9	67.9	P/P	40 - 150
1962854	Diuron	53.7	54.6	P/P	40 - 150
1962854	Fenuron	67.6	67.6	P/P	40 - 150
1962854	Fluridone	59.6	55.3	P/P	40 - 150
1962854	Imidacloprid	146	146	P/P	40 - 160
1962854	Linuron	70.6	67.2	P/P	40 - 150
1962854	MCPP	37.2	39.5	F/F	40 - 150
1962854	Primidone	89.8	92.4	P/P	40 - 150
1962854	Triclopyr	47.6	51.0	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P339293

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1962805	Sucralose	105	106	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P339013

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P339013

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962854	2,4-D	3.35	Spike	P	0 - 30
1962854	Acetaminophen	25.1	Spike	P	0 - 30
1962854	Bentazon	0.708	Spike	P	0 - 30
1962854	Carbamazepine	2.79	Spike	P	0 - 30
1962854	Diuron	1.57	Spike	P	0 - 30
1962854	Fenuron	0.0296	Spike	P	0 - 30
1962854	Fluridone	7.28	Spike	P	0 - 30
1962854	Imidacloprid	0.126	Spike	P	0 - 30
1962854	Linuron	4.83	Spike	P	0 - 30
1962854	MCP	6.05	Spike	P	0 - 30
1962854	Primidone	2.64	Spike	P	0 - 30
1962854	Triclopyr	6.83	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P339293

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962805	Sucralose	1.57	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: 1962805
Field Sample ID: G2SW0012

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	52.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	94.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	71.4	P	30 - 160
EPA 8321B	Diuron-d6	65.6	P	30 - 160
EPA 8321B	Primidone-d5	95.6	P	30 - 160
EPA 8321B	Sucralose-d6	105	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A81928
Included Lab Sample IDs: 1962805

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	97.7	101	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A81930
Included Lab Sample IDs: 1962805

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	101	88.0	P/P	50 - 150
Acetaminophen	113	115	P/P	60 - 150
Bentazon	115	120	P/P	50 - 150
Carbamazepine	103	107	P/P	60 - 150
Diuron	111	106	P/P	60 - 150
Fenuron	103	108	P/P	60 - 150
Fluridone	106	107	P/P	60 - 160
Imidacloprid	106	99.2	P/P	60 - 150
Linuron	111	112	P/P	60 - 150
MCP	106	95.5	P/P	50 - 150
Primidone	100	93.0	P/P	60 - 150
Triclopyr	101	99.5	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A81941
Included Lab Sample IDs: 1962805

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	118	115	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		Precision SMP	MS
			LCS	MS		
EPA 8321B	2,4-D	74.4	54.2	51.1		3.35
	Acetaminophen	80.0	117	91.0		25.1
	Bentazon	105	20.9	20.5		0.708
	Carbamazepine	80.7	69.9	67.9		2.79
	Diuron	63.0	53.7	54.6		1.57
	Fenuron	86.5	67.6	67.6		0.0296
	Fluridone	73.0	59.6	55.3		7.28
	Imidacloprid	85.9	146	146		0.126
	Linuron	74.0	70.6	67.2		4.83
	MCP	75.2	39.5	37.2		6.05
	Primidone	94.0	89.8	92.4		2.64
	Sucralose	93.2	105	106		1.57
	Triclopyr	72.0	51.0	47.6		6.83

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1962805
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1962805

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	01/30/2018	02/01/2018	Hoor Shaik	02/03/2018	Julie Michelle Frank	1962805
	01/30/2018	02/01/2018	Hoor Shaik	02/06/2018	Julie Michelle Frank	1962805
	01/30/2018	02/06/2018	Juyoung Kim	02/06/2018	Juyoung Kim	1962805