

Chemical Analysis Report

SW-DIST-2019-06-12-05

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

Event Description: **Baker East & Pemberton**
Request ID: **RQ-2019-06-10-51**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 01-JUL-2019 15:30

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored 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 by the Florida Department of Health Environmental Laboratory Certification Program 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 EAST @ PEMBERTON DR

Collection Date/Time: 06/11/2019 10:20

Field ID: G2SW0080

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2094673	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P365528	
		2,4-D	0.040		ug/L	P365439	RPD
		AMPA**	0.33	I	ug/L	P365528	
		Sucralose**	0.18		ug/L	P365528	
		Endothall**	0.25	U	ug/L	P365528	
		Acetaminophen**	0.0080	U	ug/L	P365439	RPD
		Glufosinate**	0.10	U	ug/L	P365528	
		Glyphosate**	0.68		ug/L	P365528	
		Bentazon	0.022		ug/L	P365439	
		Carbamazepine**	8.0E-04	U	ug/L	P365439	
		Diuron	0.0020	U	ug/L	P365439	
		Fenuron	0.033	I	ug/L	P365439	
		Fluridone**	0.0017	I	ug/L	P365439	
		Imazapyr**	0.045		ug/L	P365439	
		Hydrocodone**	0.0020	U	ug/L	P365439	RPD
		Ibuprofen**	0.020	U	ug/L	P365439	MS, RPD
		Imidacloprid	0.061		ug/L	P365439	RPD
		Linuron	0.0040	U	ug/L	P365439	
		MCP	0.0020	U	ug/L	P365439	
		Naproxen**	0.0080	U	ug/L	P365439	MS, RPD
		Primidone**	0.0040	U	ug/L	P365439	RPD
		Pyraclostrobin**	0.0020	U	ug/L	P365439	MS
		Triclopyr**	0.0040	U	ug/L	P365439	MS, RPD

Ref. Method and Comment:

EPA 8321B: Matrix spike precision for pyraclostrobin is not available due to low analyte recoveries. Results confirmed in re-extraction.

Sample Location: BAKER CREEK EAST @ McINTOSH RD

Collection Date/Time: 06/11/2019 10:00

Field ID: G2SW0081

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2094674	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P365528	
		2,4-D	0.024		ug/L	P365439	RPD
		AMPA**	0.32	I	ug/L	P365528	
		Sucralose**	0.24		ug/L	P365528	
		Endothall**	0.25	U	ug/L	P365528	
		Acetaminophen**	0.0080	U	ug/L	P365439	RPD
		Glufosinate**	0.10	U	ug/L	P365528	
		Glyphosate**	0.76		ug/L	P365528	
		Bentazon	0.024		ug/L	P365439	
		Carbamazepine**	8.0E-04	U	ug/L	P365439	
		Diuron	0.0020	U	ug/L	P365439	
		Fenuron	0.016	U	ug/L	P365439	
		Fluridone**	0.0021	I	ug/L	P365439	
		Imazapyr**	0.045		ug/L	P365439	
		Hydrocodone**	0.0020	U	ug/L	P365439	RPD
		Ibuprofen**	0.020	U	ug/L	P365439	MS, RPD
		Imidacloprid	0.058		ug/L	P365439	RPD
		Linuron	0.0040	U	ug/L	P365439	
		MCPP	0.0020	U	ug/L	P365439	
		Naproxen**	0.0080	U	ug/L	P365439	MS, RPD
		Primidone**	0.0040	U	ug/L	P365439	RPD
		Pyraclostrobin**	0.0020	U	ug/L	P365439	MS
		Triclopyr**	0.0040	U	ug/L	P365439	MS, RPD

Ref. Method and Comment:

EPA 8321B: Matrix spike precision for pyraclostrobin is not available due to low analyte recoveries. Results confirmed in re-extraction.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P365439

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	8.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P365528

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P365439

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	61.4		P	40 - 150
Acetaminophen	118		P	30 - 150
Bentazon	86.0		P	30 - 150
Carbamazepine	92.6		P	40 - 150
Diuron	81.4		P	40 - 150
Fenuron	117		P	40 - 150
Fluridone	64.4		P	40 - 150
Hydrocodone	104		P	40 - 150
Ibuprofen	33.7		P	30 - 150
Imazapyr	109		P	40 - 150
Imidacloprid	101		P	40 - 150
Linuron	51.7		P	40 - 150
MCPP	84.6		P	40 - 150
Naproxen	60.8		P	40 - 150
Primidone	103		P	40 - 150
Pyraclostrobin	32.2		P	30 - 150
Triclopyr	36.2		P	30 - 150

Reference Method: EPA 8321B
Batch ID: P365528

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	115		P	40 - 150
AMPA	107		P	40 - 150
Endothall	97.8		P	40 - 150
Glufosinate	109		P	40 - 150
Glyphosate	105		P	40 - 140
Sucralose	106		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P365439

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2093211	2,4-D	40.1	63.1	P/P	40 - 150
2093211	Acetaminophen	138	68.0	P/P	30 - 150
2093211	Bentazon	64.9	67.4	P/P	30 - 150
2093211	Carbamazepine	83.9	81.5	P/P	40 - 150
2093211	Diuron	74.0	71.2	P/P	40 - 150
2093211	Fenuron	132	104	P/P	40 - 150
2093211	Fluridone	56.8	45.9	P/P	40 - 150
2093211	Hydrocodone	124	78.5	P/P	40 - 150
2093211	Ibuprofen	8.76	34.3	F/P	30 - 150
2093211	Imazapyr	114	88.4	P/P	40 - 150
2093211	Imidacloprid	130	90.6	P/P	40 - 150
2093211	Linuron	47.5	41.1	P/P	40 - 150
2093211	MCP	48.8	65.8	P/P	40 - 150
2093211	Naproxen	12.9	59.7	F/P	40 - 150
2093211	Primidone	115	77.8	P/P	40 - 150
2093211	Pyraclostrobin	0.0216	20.1	F/F	30 - 150
2093211	Triclopyr	14.7	36.4	F/P	30 - 150

Reference Method: EPA 8321B
 Batch ID: P365528

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2094293	Acesulfame K	112	114	P/P	40 - 150
2094293	AMPA	86.3	86.6	P/P	40 - 150
2094293	Endothall	60.7	60.4	P/P	40 - 150
2094293	Glufosinate	88.9	82.8	P/P	40 - 150
2094293	Glyphosate	82.3	81.8	P/P	40 - 140
2094293	Sucralose	95.8	105	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P365439

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2093211	2,4-D	44.5	Spike	F	0 - 30
2093211	Acetaminophen	67.8	Spike	F	0 - 30
2093211	Bentazon	3.66	Spike	P	0 - 30
2093211	Carbamazepine	2.95	Spike	P	0 - 30
2093211	Diuron	3.94	Spike	P	0 - 30
2093211	Fenuron	23.3	Spike	P	0 - 30
2093211	Fluridone	21.3	Spike	P	0 - 30
2093211	Hydrocodone	44.7	Spike	F	0 - 30
2093211	Ibuprofen	119	Spike	F	0 - 30
2093211	Imazapyr	25.0	Spike	P	0 - 30
2093211	Imidacloprid	35.8	Spike	F	0 - 30
2093211	Linuron	14.3	Spike	P	0 - 30
2093211	MCPP	29.7	Spike	P	0 - 30
2093211	Naproxen	129	Spike	F	0 - 30
2093211	Primidone	38.6	Spike	F	0 - 30
2093211	Triclopyr	84.6	Spike	F	0 - 30

Reference Method: EPA 8321B
Batch ID: P365528

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2094293	Acesulfame K	1.94	Spike	P	0 - 30
2094293	AMPA	0.293	Spike	P	0 - 30
2094293	Endothall	0.503	Spike	P	0 - 30
2094293	Glufosinate	7.08	Spike	P	0 - 30
2094293	Glyphosate	0.574	Spike	P	0 - 30
2094293	Sucralose	9.47	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: 2094673
Field Sample ID: G2SW0080

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	111	P	30 - 160
EPA 8321B	Acetaminophen-d4	99.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	39.7	P	30 - 160
EPA 8321B	Diuron-d6	39.3	P	30 - 160
EPA 8321B	Endothall-d6	66.1	P	30 - 160
EPA 8321B	Endothall-d6	66.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	116	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	116	P	30 - 160
EPA 8321B	Ibuprofen-d3	32.9	P	30 - 160
EPA 8321B	Primidone-d5	103	P	30 - 160
EPA 8321B	Sucralose-d6	146	P	30 - 160
EPA 8321B	Sucralose-d6	146	P	30 - 160

Lab Sample ID: 2094674
Field Sample ID: G2SW0081

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	61.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	86.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	34.4	P	30 - 160
EPA 8321B	Diuron-d6	34.9	P	30 - 160
EPA 8321B	Endothall-d6	67.2	P	30 - 160
EPA 8321B	Endothall-d6	67.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	128	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	128	P	30 - 160
EPA 8321B	Ibuprofen-d3	54.9	P	30 - 160
EPA 8321B	Primidone-d5	89.0	P	30 - 160
EPA 8321B	Sucralose-d6	142	P	30 - 160
EPA 8321B	Sucralose-d6	142	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A92077

Included Lab Sample IDs: 2094673, 2094674

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	116	111	P/P	60 - 160
Endothall	88.5	98.9	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A92081

Included Lab Sample IDs: 2094673, 2094674

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	103	102	P/P	60 - 160
Glufosinate	104	97.4	P/P	60 - 160
Glyphosate	101	98.1	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A92226

Included Lab Sample IDs: 2094673, 2094674

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	110	116	P/P	50 - 150
Acetaminophen	117	105	P/P	60 - 160
Bentazon	105	95.6	P/P	50 - 160
Carbamazepine	112	110	P/P	60 - 150
Diuron	114	108	P/P	60 - 150
Fenuron	106	102	P/P	60 - 150
Fluridone	70.5	65.5	P/P	60 - 160
Hydrocodone	119	124	P/P	60 - 150
Ibuprofen	69.0	66.1	P/P	50 - 160
Imazapyr	118	108	P/P	50 - 150
Imidacloprid	102	103	P/P	60 - 150
Linuron	61.8	62.7	P/P	60 - 150
MCPP	104	101	P/P	50 - 150
Naproxen	109	79.4	P/P	50 - 160
Primidone	113	98.8	P/P	60 - 150
Pyraclostrobin	89.7	84.3	P/P	60 - 150
Triclopyr	118	103	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A92422

Included Lab Sample IDs: 2094673, 2094674

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	106	109	P/P	60 - 160

* 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			
EPA 8321B	2,4-D	61.4	63.1	40.1		44.5
	Acesulfame K	115	112	114		1.94
	Acetaminophen	118	68.0	138		67.8
	AMPA	107	86.3	86.6		0.293
	Bentazon	86.0	67.4	64.9		3.66
	Carbamazepine	92.6	81.5	83.9		2.95
	Diuron	81.4	71.2	74.0		3.94
	Endothall	97.8	60.7	60.4		0.503
	Fenuron	117	104	132		23.3
	Fluridone	64.4	45.9	56.8		21.3
	Glufosinate	109	88.9	82.8		7.08
	Glyphosate	105	82.3	81.8		0.574
	Hydrocodone	104	78.5	124		44.7
	Ibuprofen	33.7	34.3	8.76		119
	Imazapyr	109	88.4	114		25.0
	Imidacloprid	101	90.6	130		35.8
	Linuron	51.7	41.1	47.5		14.3
	MCPP	84.6	65.8	48.8		29.7
	Naproxen	60.8	59.7	12.9		129
	Primidone	103	77.8	115		38.6
	Pyraclostrobin	32.2	20.1	0.0216		
	Sucralose	106	95.8	105		9.47
	Triclopyr	36.2	36.4	14.7		84.6

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2094673, 2094674
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2094673, 2094674

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	06/12/2019	06/12/2019 14:00	Joshua Hartstein	06/13/2019 21:56	Juyoung Kim	2094673
	06/12/2019	06/12/2019 14:00	Joshua Hartstein	06/13/2019 22:31	Juyoung Kim	2094674
	06/12/2019	06/13/2019 09:30	Rebecca Ware	06/13/2019 11:14	Rebecca Ware	2094673
	06/12/2019	06/13/2019 09:30	Rebecca Ware	06/13/2019 11:28	Rebecca Ware	2094674
	06/12/2019	06/13/2019 09:30	Rebecca Ware	06/13/2019 13:35	Rebecca Ware	2094673
	06/12/2019	06/13/2019 09:30	Rebecca Ware	06/13/2019 13:46	Rebecca Ware	2094674
	06/12/2019	06/13/2019 09:30	Rebecca Ware	06/26/2019 15:50	Rebecca Ware	2094673
	06/12/2019	06/13/2019 09:30	Rebecca Ware	06/26/2019 16:02	Rebecca Ware	2094674