Chemical Analysis Report

SW-DIST-2019-12-04-01

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

Event Description: **Longbranch**
Request ID: **RQ-2019-10-28-03**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
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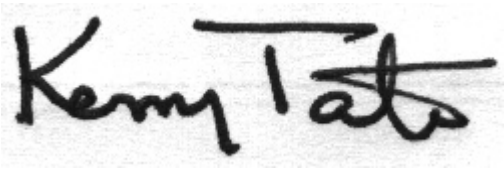
Date Certified: 18-DEC-2019 09:29



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 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: Long Branch Tidal @ Whitney Rd **Collection Date/Time: 12/03/2019 13:50**

Field ID: G1SW0107 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2140280	EPA 8321B	2,4-D	0.0090		ug/L	P375140	
		Acesulfame K**	0.19	I	ug/L	P375209	
		AMPA**	0.84		ug/L	P375209	
		Sucralose**	0.18		ug/L	P375209	MS
		Acetaminophen**	0.0080	U	ug/L	P375140	
		Acetamiprid**	0.0020	U	ug/L	P375140	
		Endothall**	0.25	U	ug/L	P375209	
		Glufosinate**	0.10	U	ug/L	P375209	
		Glyphosate**	0.10	U	ug/L	P375209	
		Afidopyropen**	0.0020	U	ug/L	P375140	
		Bentazon	0.019		ug/L	P375140	
		Benzovindiflupyr**	0.0020	U	ug/L	P375140	
		Carbamazepine**	8.0E-04	U	ug/L	P375140	
		Clothianidin**	0.0021	I	ug/L	P375140	
		Dinotefuran**	0.0020	U	ug/L	P375140	
		Diuron	0.016		ug/L	P375140	
		Fenuron	0.016	U	ug/L	P375140	
		Fluridone**	0.045		ug/L	P375140	
		Imazapyr**	2.8		ug/L	P375140	
		Hydrocodone**	0.0020	U	ug/L	P375140	
		Ibuprofen**	0.020	U	ug/L	P375140	
		Imidacloprid	0.012		ug/L	P375140	
		Linuron	0.0040	U	ug/L	P375140	
		Mandestrobin**	0.0020	U	ug/L	P375140	
		MCPP	0.0026	I	ug/L	P375140	
		Naproxen**	0.0080	U	ug/L	P375140	
		Primidone**	0.0040	U	ug/L	P375140	
		Pyraclostrobin**	0.0020	U	ug/L	P375140	
		Thiamethoxam**	0.0020	U	ug/L	P375140	
		Tolfenpyrad**	0.0020	U	ug/L	P375140	
		Triclopyr**	0.0040	U	ug/L	P375140	

Ref. Method and Comment:
EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for bentazon 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: P375140

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	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
Mandestrobin	0.0020	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
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P375209

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: P375140

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	139		P	40 - 160
Acetaminophen	65.9		P	30 - 160
Acetamiprid	89.7		P	40 - 160
Afidopyropen	91.5		P	40 - 160
Bentazon	84.8		P	30 - 160
Benzovindiflupyr	74.2		P	40 - 160
Carbamazepine	94.3		P	40 - 160
Clothianidin	77.6		P	40 - 160
Dinotefuran	81.7		P	40 - 160
Diuron	85.3		P	40 - 160
Fenuron	102		P	40 - 160
Fluridone	104		P	40 - 160
Hydrocodone	83.1		P	40 - 160
Ibuprofen	80.0		P	30 - 160
Imazapyr	93.9		P	40 - 160
Imidacloprid	104		P	40 - 160
Linuron	67.4		P	40 - 160
Mandestrobin	96.0		P	40 - 160
MCPP	140		P	40 - 160
Naproxen	77.8		P	40 - 160
Primidone	75.2		P	40 - 160
Pyraclostrobin	79.7		P	30 - 160
Thiamethoxam	91.9		P	40 - 160
Tolfenpyrad	54.6		P	40 - 160
Triclopyr	92.1		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P375209

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	105		P	40 - 150
AMPA	113		P	40 - 150
Endothall	81.0		P	40 - 150
Glufosinate	125		P	40 - 150
Glyphosate	124		P	40 - 140
Sucralose	90.1		P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P375140

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140108	2,4-D	114	119	P/P	40 - 160
2140108	Acetaminophen	76.3	69.1	P/P	30 - 160
2140108	Acetamiprid	92.1	100	P/P	40 - 160
2140108	Afidopyropen	100	96.3	P/P	40 - 160
2140108	Benzovindiflupyr	69.4	80.6	P/P	40 - 160
2140108	Carbamazepine	76.9	72.4	P/P	40 - 160
2140108	Clothianidin	78.4	81.8	P/P	40 - 160
2140108	Dinotefuran	106	116	P/P	40 - 160
2140108	Diuron	59.8	65.0	P/P	40 - 160
2140108	Fenuron	92.0	89.9	P/P	40 - 160
2140108	Fluridone	84.4	89.6	P/P	40 - 160
2140108	Hydrocodone	95.6	83.0	P/P	40 - 160
2140108	Ibuprofen	62.5	65.7	P/P	30 - 160
2140108	Imazapyr	72.4	84.0	P/P	40 - 160
2140108	Imidacloprid	151	159	P/P	40 - 160
2140108	Linuron	57.4	54.0	P/P	40 - 160
2140108	Mandestrobin	87.2	95.3	P/P	40 - 160
2140108	MCPP	120	126	P/P	40 - 160
2140108	Naproxen	79.2	92.9	P/P	40 - 160
2140108	Primidone	87.2	79.5	P/P	40 - 160
2140108	Pyraclostrobin	75.3	91.0	P/P	30 - 160
2140108	Thiamethoxam	118	117	P/P	40 - 160
2140108	Tolfenpyrad	54.1	54.2	P/P	40 - 160
2140108	Triclopyr	95.8	85.9	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P375209

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140044	Acesulfame K	145	140	P/P	40 - 150
2140044	AMPA	141	115	P/P	40 - 150
2140044	Endothall	97.2	108	P/P	40 - 150
2140044	Glufosinate	135	124	P/P	40 - 150
2140044	Glyphosate	82.7	72.3	P/P	40 - 140
2140044	Sucralose	16.1	17.2	F/F	40 - 150

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P375140

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140108	2,4-D	3.90	Spike	P	0 - 30
2140108	Acetaminophen	9.96	Spike	P	0 - 30
2140108	Acetamiprid	8.50	Spike	P	0 - 30
2140108	Afidopyropen	3.80	Spike	P	0 - 30
2140108	Bentazon	18.4	Spike	P	0 - 30
2140108	Benzovindiflupyr	14.9	Spike	P	0 - 30
2140108	Carbamazepine	5.20	Spike	P	0 - 30
2140108	Clothianidin	4.21	Spike	P	0 - 30
2140108	Dinotefuran	8.05	Spike	P	0 - 30
2140108	Diuron	7.89	Spike	P	0 - 30
2140108	Fenuron	2.33	Spike	P	0 - 30
2140108	Fluridone	3.38	Spike	P	0 - 30
2140108	Hydrocodone	14.1	Spike	P	0 - 30
2140108	Ibuprofen	4.94	Spike	P	0 - 30
2140108	Imazapyr	8.53	Spike	P	0 - 30
2140108	Imidacloprid	5.14	Spike	P	0 - 30
2140108	Linuron	6.09	Spike	P	0 - 30
2140108	Mandestrobin	8.87	Spike	P	0 - 30
2140108	MCPP	4.80	Spike	P	0 - 30
2140108	Naproxen	16.0	Spike	P	0 - 30
2140108	Primidone	7.41	Spike	P	0 - 30
2140108	Pyraclostrobin	18.9	Spike	P	0 - 30
2140108	Thiamethoxam	1.21	Spike	P	0 - 30
2140108	Tolfenpyrad	0.163	Spike	P	0 - 30
2140108	Triclopyr	10.9	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P375209

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140044	Acesulfame K	3.77	Spike	P	0 - 30
2140044	AMPA	15.2	Spike	P	0 - 30
2140044	Endothall	10.5	Spike	P	0 - 30
2140044	Glufosinate	8.38	Spike	P	0 - 30
2140044	Glyphosate	3.84	Spike	P	0 - 30
2140044	Sucralose	4.29	Spike	P	0 - 30

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report
Surrogates

Lab Sample ID: 2140280
Field Sample ID: G1SW0107

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	112	P	30 - 160
EPA 8321B	Acetaminophen-d4	74.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	76.4	P	30 - 160
EPA 8321B	Diuron-d6	72.0	P	30 - 160
EPA 8321B	Endothall-d6	107	P	30 - 160
EPA 8321B	Endothall-d6	107	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	70.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	70.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	79.8	P	30 - 160
EPA 8321B	Primidone-d5	87.8	P	30 - 160
EPA 8321B	Sucralose-d6	113	P	30 - 160
EPA 8321B	Sucralose-d6	113	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A96104
Included Lab Sample IDs: 2140280

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	99.5	100	P/P	50 - 150
Acetaminophen	85.8	78.5	P/P	60 - 160
Acetamiprid	103	98.9	P/P	50 - 150
Afidopyropen	99.9	94.0	P/P	50 - 150
Bentazon	75.2	77.5	P/P	50 - 160
Benzovindiflupyr	105	105	P/P	50 - 150
Carbamazepine	94.5	98.3	P/P	60 - 150
Clothianidin	92.6	83.0	P/P	60 - 150
Dinotefuran	89.8	87.7	P/P	50 - 150
Diuron	103	100	P/P	60 - 150
Fenuron	80.7	85.3	P/P	60 - 150
Fluridone	117	114	P/P	60 - 160
Hydrocodone	89.4	87.3	P/P	60 - 150
Ibuprofen	84.6	78.5	P/P	50 - 160
Imidacloprid	97.7	86.1	P/P	60 - 150
Linuron	91.8	94.1	P/P	60 - 150
Mandestrobin	109	107	P/P	50 - 150
MCPP	98.7	106	P/P	50 - 150
Naproxen	69.5	111	P/P	50 - 160
Primidone	87.8	75.5	P/P	60 - 150
Pyraclostrobin	103	96.7	P/P	60 - 150
Thiamethoxam	93.3	86.2	P/P	50 - 150
Tolfenpyrad	104	95.1	P/P	60 - 150
Triclopyr	99.2	93.5	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A96195
Included Lab Sample IDs: 2140280

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	135	112	P/P	60 - 160
Glufosinate	112	114	P/P	60 - 160
Glyphosate	124	129	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A96196
Included Lab Sample IDs: 2140280

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	105	98.7	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A96215
Included Lab Sample IDs: 2140280

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	103	83.0	P/P	60 - 160
Endothall	95.2	95.5	P/P	60 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A96343
Included Lab Sample IDs: 2140280

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imazapyr	104	107	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		Precision		
					LCS	SMP	MS
EPA 8321B	2,4-D	139	119	114			3.90
	Acesulfame K	105	145	140			3.77
	Acetaminophen	65.9	76.3	69.1			9.96
	Acetamiprid	89.7	92.1	100			8.50
	Afidopyropen	91.5	100	96.3			3.80
	AMPA	113	141	115			15.2
	Bentazon	84.8					18.4
	Benzovindiflupyr	74.2	69.4	80.6			14.9
	Carbamazepine	94.3	76.9	72.4			5.20
	Clothianidin	77.6	78.4	81.8			4.21
	Dinotefuran	81.7	106	116			8.05
	Diuron	85.3	59.8	65.0			7.89
	Endothall	81.0	97.2	108			10.5
	Fenuron	102	92.0	89.9			2.33
	Fluridone	104	84.4	89.6			3.38
	Glufosinate	125	135	124			8.38
	Glyphosate	124	82.7	72.3			3.84
	Hydrocodone	83.1	95.6	83.0			14.1
	Ibuprofen	80.0	65.7	62.5			4.94
	Imazapyr	93.9	84.0	72.4			8.53
	Imidacloprid	104	151	159			5.14
	Linuron	67.4	57.4	54.0			6.09
	Mandestrobin	96.0	87.2	95.3			8.87
	MCPP	140	126	120			4.80
	Naproxen	77.8	92.9	79.2			16.0
	Primidone	75.2	87.2	79.5			7.41
	Pyraclostrobin	79.7	75.3	91.0			18.9
	Sucralose	90.1	16.1	17.2			4.29
	Thiamethoxam	91.9	118	117			1.21
	Tolfenpyrad	54.6	54.2	54.1			0.163
	Triclopyr	92.1	85.9	95.8			10.9

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2140280
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2140280

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	12/04/2019	12/04/2019 12:00	Hoor Shaik	12/05/2019 08:22	Juyoung Kim	2140280
	12/04/2019	12/04/2019 12:00	Hoor Shaik	12/11/2019 21:06	Juyoung Kim	2140280
	12/04/2019	12/05/2019 11:00	Rebecca Ware	12/05/2019 18:54	Rebecca Ware	2140280
	12/04/2019	12/05/2019 11:00	Rebecca Ware	12/06/2019 18:49	Rebecca Ware	2140280
	12/04/2019	12/05/2019 11:00	Rebecca Ware	12/07/2019 17:21	Rebecca Ware	2140280