

Chemical Analysis Report

SW-DIST-2019-06-25-01

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

Event Description: **Longbranch, PC Site#22-01**
Request ID: **RQ-2019-06-24-02**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
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13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
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Certified by: Colin Wright, Program Administrator

Date Certified: 15-JUL-2019 14:27

A handwritten signature in black ink, appearing to read "Colin Wright", 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: LONG BRANCH TIDAL @ WHITNEY RD

Collection Date/Time: 06/24/2019 15:07

Field ID: G1SW0107

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2098289	EPA 8321B	Acesulfame K**	0.14	I	ug/L	P366232	
		2,4-D	0.073		ug/L	P366199	MS
		AMPA**	0.38	I	ug/L	P366232	
		Acetaminophen**	0.0080	U	ug/L	P366199	
		Endothall**	0.25	U	ug/L	P366232	
		Glufosinate**	0.10	U	ug/L	P366232	
		Glyphosate**	0.10	U	ug/L	P366232	
		Sucralose**	0.10		ug/L	P366232	
		Bentazon	0.033		ug/L	P366199	
		Carbamazepine**	8.0E-04	U	ug/L	P366199	
		Diuron	0.012		ug/L	P366199	
		Fenuron	0.016	U	ug/L	P366199	
		Fluridone**	0.49		ug/L	P366199	
		Imazapyr**	0.17		ug/L	P366199	MS
		Hydrocodone**	0.0020	U	ug/L	P366199	
		Ibuprofen**	0.020	U	ug/L	P366199	
		Imidacloprid	0.017		ug/L	P366199	MS
		Linuron	0.0040	U	ug/L	P366199	
		MCPP	0.010		ug/L	P366199	MS
		Naproxen**	0.0080	U	ug/L	P366199	
		Primidone**	0.0040	U	ug/L	P366199	
		Pyraclostrobin**	0.0020	U	ug/L	P366199	
		Triclopyr**	0.0040	U	ug/L	P366199	

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P366199

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: P366232

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: P366199

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	116		P	40 - 150
Acetaminophen	82.7		P	30 - 150
Bentazon	117		P	30 - 150
Carbamazepine	82.5		P	40 - 150
Diuron	83.2		P	40 - 150
Fenuron	100		P	40 - 150
Fluridone	93.2		P	40 - 150
Hydrocodone	98.7		P	40 - 150
Ibuprofen	83.5		P	30 - 150
Imazapyr	131		P	40 - 150
Imidacloprid	87.5		P	40 - 150
Linuron	63.2		P	40 - 150
MCPP	137		P	40 - 150
Naproxen	84.5		P	40 - 150
Primidone	79.5		P	40 - 150
Pyraclostrobin	69.4		P	30 - 150
Triclopyr	107		P	30 - 150

Reference Method: EPA 8321B
Batch ID: P366232

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	116		P	40 - 150
AMPA	95.3		P	40 - 150
Endothall	94.4		P	40 - 150
Glufosinate	86.8		P	40 - 150
Glyphosate	95.3		P	40 - 140
Sucralose	103		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P366199

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2097411	2,4-D	137	161	P/F	40 - 150
2097411	Acetaminophen	101	111	P/P	30 - 150
2097411	Bentazon	101	106	P/P	30 - 150
2097411	Carbamazepine	84.4	85.3	P/P	40 - 150
2097411	Diuron	77.0	78.4	P/P	40 - 150
2097411	Fenuron	93.2	96.6	P/P	40 - 150
2097411	Fluridone	85.2	84.1	P/P	40 - 150
2097411	Hydrocodone	116	117	P/P	40 - 150
2097411	Ibuprofen	83.3	90.6	P/P	30 - 150
2097411	Imazapyr	139	182	P/F	40 - 150
2097411	Imidacloprid	174	198	F/F	40 - 150
2097411	Linuron	55.0	53.0	P/P	40 - 150
2097411	MCPP	187	189	F/F	40 - 150
2097411	Naproxen	95.4	81.8	P/P	40 - 150
2097411	Primidone	92.6	99.7	P/P	40 - 150
2097411	Pyraclostrobin	71.8	73.2	P/P	30 - 150
2097411	Triclopyr	122	136	P/P	30 - 150

Reference Method: EPA 8321B
Batch ID: P366232

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2097186	Acesulfame K	134	139	P/P	40 - 150
2097186	AMPA	70.6	71.9	P/P	40 - 150
2097186	Endothall	97.7	100	P/P	40 - 150
2097186	Glufosinate	82.5	83.7	P/P	40 - 150
2097186	Glyphosate	77.1	79.8	P/P	40 - 140
2097186	Sucralose	107	106	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P366199

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2097411	2,4-D	11.9	Spike	P	0 - 30
2097411	Acetaminophen	8.61	Spike	P	0 - 30
2097411	Bentazon	2.77	Spike	P	0 - 30
2097411	Carbamazepine	1.14	Spike	P	0 - 30
2097411	Diuron	1.59	Spike	P	0 - 30
2097411	Fenuron	3.59	Spike	P	0 - 30
2097411	Fluridone	1.25	Spike	P	0 - 30
2097411	Hydrocodone	1.01	Spike	P	0 - 30
2097411	Ibuprofen	8.35	Spike	P	0 - 30
2097411	Imazapyr	20.8	Spike	P	0 - 30
2097411	Imidacloprid	6.52	Spike	P	0 - 30
2097411	Linuron	3.84	Spike	P	0 - 30
2097411	MCPP	1.01	Spike	P	0 - 30
2097411	Naproxen	15.4	Spike	P	0 - 30
2097411	Primidone	7.35	Spike	P	0 - 30
2097411	Pyraclostrobin	1.99	Spike	P	0 - 30
2097411	Triclopyr	11.2	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P366232

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2097186	Acesulfame K	4.04	Spike	P	0 - 30
2097186	AMPA	1.74	Spike	P	0 - 30
2097186	Endothall	2.39	Spike	P	0 - 30
2097186	Glufosinate	1.47	Spike	P	0 - 30
2097186	Glyphosate	3.43	Spike	P	0 - 30
2097186	Sucralose	1.04	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: 2098289

Field Sample ID: G1SW0107

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	132	P	30 - 160
EPA 8321B	Acetaminophen-d4	80.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	71.0	P	30 - 160
EPA 8321B	Diuron-d6	63.0	P	30 - 160
EPA 8321B	Endothall-d6	87.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	35.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	69.0	P	30 - 160
EPA 8321B	Primidone-d5	75.7	P	30 - 160
EPA 8321B	Sucralose-d6	87.3	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A92361
 Included Lab Sample IDs: 2098289

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	71.0	130	P/P	60 - 160
Endothall	98.6	102	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A92363
 Included Lab Sample IDs: 2098289

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	71.7	74.5	P/P	60 - 160
Glufosinate	80.5	119	P/P	60 - 160
Glyphosate	82.8	127	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A92372
 Included Lab Sample IDs: 2098289

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	107	106	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A92569
 Included Lab Sample IDs: 2098289

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	81.7	79.9	P/P	50 - 150
Acetaminophen	103	101	P/P	60 - 160
Bentazon	112	114	P/P	50 - 160
Carbamazepine	104	102	P/P	60 - 150
Diuron	106	103	P/P	60 - 150
Fenuron	107	104	P/P	60 - 150
Hydrocodone	94.6	102	P/P	60 - 150
Ibuprofen	82.6	90.0	P/P	50 - 160
Imazapyr	122	112	P/P	50 - 150
Imidacloprid	88.9	84.8	P/P	60 - 150
Linuron	91.4	88.0	P/P	60 - 150
MCPP	81.6	80.0	P/P	50 - 150
Naproxen	132	101	P/P	50 - 160
Primidone	100	95.2	P/P	60 - 150
Pyraclostrobin	78.6	80.7	P/P	60 - 150
Triclopyr	80.8	79.3	P/P	50 - 150

Reference Method: EPA 8321B
 Run ID: A92632
 Included Lab Sample IDs: 2098289

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluridone	110	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	116	137	161		11.9
	Acesulfame K	116	134	139		4.04
	Acetaminophen	82.7	101	111		8.61
	AMPA	95.3	70.6	71.9		1.74
	Bentazon	117	101	106		2.77
	Carbamazepine	82.5	84.4	85.3		1.14
	Diuron	83.2	77.0	78.4		1.59
	Endothall	94.4	97.7	100		2.39
	Fenuron	100	93.2	96.6		3.59
	Fluridone	93.2	85.2	84.1		1.25
	Glufosinate	86.8	83.7	82.5		1.47
	Glyphosate	95.3	77.1	79.8		3.43
	Hydrocodone	98.7	116	117		1.01
	Ibuprofen	83.5	83.3	90.6		8.35
	Imazapyr	131	139	182		20.8
	Imidacloprid	87.5	174	198		6.52
	Linuron	63.2	55.0	53.0		3.84
	MCPP	137	187	189		1.01
	Naproxen	84.5	95.4	81.8		15.4
	Primidone	79.5	92.6	99.7		7.35
	Pyraclostrobin	69.4	71.8	73.2		1.99
	Sucralose	103	107	106		1.04
	Triclopyr	107	122	136		11.2

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2098289

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	06/25/2019	06/25/2019 15:00	Rebecca Ware	06/25/2019 15:08	Rebecca Ware	2098289
	06/25/2019	06/25/2019 15:00	Rebecca Ware	06/26/2019 00:17	Rebecca Ware	2098289
	06/25/2019	06/25/2019 15:00	Rebecca Ware	06/26/2019 13:28	Rebecca Ware	2098289
	06/25/2019	06/27/2019 09:00	Hoor Shaik	07/06/2019 00:58	Juyoung Kim	2098289
	06/25/2019	06/27/2019 09:00	Hoor Shaik	07/09/2019 01:54	Juyoung Kim	2098289