

Chemical Analysis Report

SW-DIST-2020-02-14-01

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

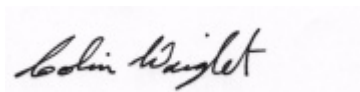
Event Description: **Pinellas site**
Request ID: **RQ-2020-02-10-27**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Colin Wright, Program Administrator

Date Certified: 04-MAR-2020 11:37

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular 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: Bear Creek @ Gulf Port Blvd

Collection Date/Time: 02/13/2020 09:04

Field ID: G5SW0051

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157662	EPA 8321B	2,4-D	0.032		ug/L	P379101	
		Acesulfame K**	0.10	UQ	ug/L	P379066	
		AMPA**	1.0	U	ug/L	P379066	
		Sucralose**	0.21	J	ug/L	P379066	SUR
		Acetaminophen**	0.0080	U	ug/L	P379101	
		Acetamiprid**	0.0020	U	ug/L	P379101	
		Endothall**	0.25	UQ	ug/L	P379066	
		Glufosinate**	1.0	U	ug/L	P379066	
		Glyphosate**	1.0	U	ug/L	P379066	
		Afidopyropen**	0.0020	UJ	ug/L	P379101	
		Bentazon	0.041		ug/L	P379101	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P379101	
		Carbamazepine**	0.0011	I	ug/L	P379101	
		Clothianidin**	0.0030	I	ug/L	P379101	
		Dinotefuran**	0.0024	I	ug/L	P379101	
		Diuron	0.0020	U	ug/L	P379101	
		Fenuron	0.016	U	ug/L	P379101	
		Fluridone**	0.0023	I	ug/L	P379101	
		Imazapyr**	0.024		ug/L	P379101	
		Hydrocodone**	0.0020	U	ug/L	P379101	
		Ibuprofen**	0.020	U	ug/L	P379101	
		Imidacloprid	0.022		ug/L	P379101	
		Linuron	0.0040	U	ug/L	P379101	
		Mandestrobin**	0.0020	UJ	ug/L	P379101	
		MCPP	0.013		ug/L	P379101	
		Naproxen**	0.0080	U	ug/L	P379101	
		Primidone**	0.0072	I	ug/L	P379101	
		Pyraclostrobin**	0.0020	U	ug/L	P379101	
		Thiamethoxam**	0.0020	U	ug/L	P379101	
		Tolfenpyrad**	0.0020	U	ug/L	P379101	
		Triclopyr**	0.0040	U	ug/L	P379101	

Ref. Method and Comment:

EPA 8321B: J - second source check standards for some analytes were not available for analysis.

EPA 8321B: Q - Sample analyzed beyond holding time due to technical difficulties. MDLs for some parameters are elevated due to matrix interference.

EPA 8321B: Results confirmed in sample duplicate. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P379066

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

Reference Method: EPA 8321B
Batch ID: P379101

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P379066

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	79.0		P	40 - 150
AMPA	72.2		P	40 - 150
Endothall	93.4		P	40 - 150
Glufosinate	114		P	40 - 150
Glyphosate	103		P	40 - 140
Sucralose	106		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P379101

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	124		P	30 - 160
Acetaminophen	89.8		P	30 - 160
Acetamiprid	90.8		P	30 - 160
Afidopyropen	81.6		P	30 - 160
Bentazon	91.8		P	30 - 160
Benzovindiflupyr	84.3		P	30 - 160
Carbamazepine	82.9		P	30 - 160
Clothianidin	95.8		P	30 - 160
Dinotefuran	91.3		P	30 - 160
Diuron	86.2		P	30 - 160
Fenuron	106		P	30 - 160
Fluridone	100		P	30 - 160
Hydrocodone	102		P	30 - 160
Ibuprofen	88.5		P	30 - 160
Imazapyr	89.8		P	30 - 160
Imidacloprid	95.5		P	30 - 160
Linuron	71.0		P	30 - 160
Mandestrobin	92.3		P	30 - 160
MCP	130		P	30 - 160
Naproxen	77.2		P	30 - 160
Primidone	98.2		P	30 - 160
Pyraclostrobin	82.6		P	30 - 160
Thiamethoxam	97.6		P	30 - 160
Tolfenpyrad	65.5		P	30 - 160
Triclopyr	100		P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P379066

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157328	Acesulfame K	76.9	79.0	P/P	40 - 150
2157328	AMPA	79.5	75.9	P/P	40 - 150
2157328	Endothall	55.1	60.7	P/P	40 - 150
2157328	Glufosinate	111	121	P/P	40 - 150
2157328	Glyphosate	124	123	P/P	40 - 140
2157328	Sucralose	111	108	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P379101

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157454	2,4-D	111	121	P/P	30 - 160
2157454	Acetaminophen	79.8	93.7	P/P	30 - 160
2157454	Acetamiprid	84.8	89.3	P/P	30 - 160
2157454	Afidopyropen	90.2	94.7	P/P	30 - 160
2157454	Bentazon	69.9	76.9	P/P	30 - 160
2157454	Benzovindiflupyr	74.6	72.0	P/P	30 - 160
2157454	Carbamazepine	80.3	81.5	P/P	30 - 160
2157454	Clothianidin	95.3	98.4	P/P	30 - 160
2157454	Dinotefuran	93.8	101	P/P	30 - 160
2157454	Diuron	69.8	72.5	P/P	30 - 160
2157454	Fenuron	98.1	106	P/P	30 - 160
2157454	Fluridone	80.2	84.4	P/P	30 - 160
2157454	Hydrocodone	87.3	90.7	P/P	30 - 160
2157454	Ibuprofen	73.4	65.4	P/P	30 - 160
2157454	Imazapyr	77.3	94.4	P/P	30 - 160
2157454	Imidacloprid	155	159	P/P	30 - 160
2157454	Linuron	59.4	58.9	P/P	30 - 160
2157454	Mandestrobin	80.7	82.6	P/P	30 - 160
2157454	MCP	138	143	P/P	30 - 160
2157454	Naproxen	69.8	74.7	P/P	30 - 160
2157454	Primidone	94.4	99.2	P/P	30 - 160
2157454	Pyraclostrobin	65.8	70.6	P/P	30 - 160
2157454	Thiamethoxam	130	135	P/P	30 - 160
2157454	Tolfenpyrad	48.3	49.8	P/P	30 - 160
2157454	Triclopyr	99.6	105	P/P	30 - 160

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P379066

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157328	Acesulfame K	2.70	Spike	P	0 - 30
2157328	AMPA	4.71	Spike	P	0 - 30
2157328	Endothall	9.55	Spike	P	0 - 30
2157328	Glufosinate	8.16	Spike	P	0 - 30
2157328	Glyphosate	1.13	Spike	P	0 - 30
2157328	Sucralose	2.78	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P379101

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157454	2,4-D	6.59	Spike	P	0 - 30
2157454	Acetaminophen	16.1	Spike	P	0 - 30
2157454	Acetamiprid	5.22	Spike	P	0 - 30
2157454	Afidopyropen	4.93	Spike	P	0 - 30
2157454	Bentazon	9.50	Spike	P	0 - 30
2157454	Benzovindiflupyr	3.62	Spike	P	0 - 30
2157454	Carbamazepine	1.45	Spike	P	0 - 30
2157454	Clothianidin	3.20	Spike	P	0 - 30
2157454	Dinotefuran	7.39	Spike	P	0 - 30
2157454	Diuron	3.78	Spike	P	0 - 30
2157454	Fenuron	8.16	Spike	P	0 - 30
2157454	Fluridone	5.09	Spike	P	0 - 30
2157454	Hydrocodone	3.83	Spike	P	0 - 30
2157454	Ibuprofen	11.5	Spike	P	0 - 30
2157454	Imazapyr	19.8	Spike	P	0 - 30
2157454	Imidacloprid	2.61	Spike	P	0 - 30
2157454	Linuron	0.981	Spike	P	0 - 30
2157454	Mandestrobin	2.23	Spike	P	0 - 30
2157454	MCPP	2.72	Spike	P	0 - 30
2157454	Naproxen	6.85	Spike	P	0 - 30
2157454	Primidone	4.96	Spike	P	0 - 30
2157454	Pyraclostrobin	7.05	Spike	P	0 - 30
2157454	Thiamethoxam	4.34	Spike	P	0 - 30
2157454	Tolfenpyrad	3.17	Spike	P	0 - 30
2157454	Triclopyr	5.68	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2157662

Field Sample ID: G5SW0051

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	130	P	30 - 160
EPA 8321B	Acetaminophen-d4	85.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	84.5	P	30 - 160
EPA 8321B	Diuron-d6	69.3	P	30 - 160
EPA 8321B	Endothall-d6	91.4	P	30 - 160
EPA 8321B	Endothall-d6	91.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	52.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	52.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	81.8	P	30 - 160
EPA 8321B	Primidone-d5	94.9	P	30 - 160
EPA 8321B	Sucralose-d6	29.3	F	30 - 160
EPA 8321B	Sucralose-d6	29.3	F	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A97710
Included Lab Sample IDs: 2157662

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	96.6	102	P/P	50 - 150
Acetaminophen	105	104	P/P	60 - 160
Acetamiprid	110	108	P/P	50 - 150
Afidopyropen	107	107	P/P	50 - 150
Bentazon	113	108	P/P	50 - 160
Benzovindiflupyr	106	106	P/P	50 - 150
Carbamazepine	112	94.5	P/P	60 - 150
Clothianidin	103	96.6	P/P	60 - 150
Dinotefuran	102	105	P/P	50 - 150
Diuron	119	117	P/P	60 - 150
Fenuron	110	104	P/P	60 - 150
Fluridone	106	107	P/P	60 - 160
Hydrocodone	74.4	102	P/P	60 - 150
Ibuprofen	101	94.8	P/P	50 - 160
Imazapyr	98.8	93.9	P/P	50 - 150
Imidacloprid	88.0	97.7	P/P	60 - 150
Linuron	89.9	93.2	P/P	60 - 150
Mandestrobin	104	102	P/P	50 - 150
MCPP	97.8	92.8	P/P	50 - 150
Naproxen	130	128	P/P	50 - 160
Primidone	94.2	99.7	P/P	60 - 150
Pyraclostrobin	104	102	P/P	60 - 150
Thiamethoxam	101	99.4	P/P	50 - 150
Tolfenpyrad	103	101	P/P	60 - 150
Triclopyr	104	102	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A97817
Included Lab Sample IDs: 2157662

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	77.2	60.7	P/P	60 - 160
Endothall	105	97.1	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A97908
Included Lab Sample IDs: 2157662

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	109	118	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A97951
Included Lab Sample IDs: 2157662

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	67.4	83.2	P/P	60 - 160
Glufosinate	122	101	P/P	60 - 160
Glyphosate	113	117	P/P	60 - 160

Quality Assurance Report

Calibration Verification

* 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	124	111	121		6.59
	Acesulfame K	79.0	76.9	79.0		2.70
	Acetaminophen	89.8	79.8	93.7		16.1
	Acetamiprid	90.8	84.8	89.3		5.22
	Afidopyropen	81.6	90.2	94.7		4.93
	AMPA	72.2	79.5	75.9		4.71
	Bentazon	91.8	69.9	76.9		9.50
	Benzovindiflupyr	84.3	74.6	72.0		3.62
	Carbamazepine	82.9	80.3	81.5		1.45
	Clothianidin	95.8	95.3	98.4		3.20
	Dinotefuran	91.3	93.8	101		7.39
	Diuron	86.2	69.8	72.5		3.78
	Endothall	93.4	55.1	60.7		9.55
	Fenuron	106	98.1	106		8.16
	Fluridone	100	80.2	84.4		5.09
	Glufosinate	114	111	121		8.16
	Glyphosate	103	124	123		1.13
	Hydrocodone	102	87.3	90.7		3.83
	Ibuprofen	88.5	73.4	65.4		11.5
	Imazapyr	89.8	77.3	94.4		19.8
	Imidacloprid	95.5	155	159		2.61
	Linuron	71.0	59.4	58.9		0.981
	Mandestrobin	92.3	80.7	82.6		2.23
	MCPP	130	138	143		2.72
	Naproxen	77.2	69.8	74.7		6.85
	Primidone	98.2	94.4	99.2		4.96
	Pyraclostrobin	82.6	65.8	70.6		7.05
	Sucralose	106	111	108		2.78
	Thiamethoxam	97.6	130	135		4.34
	Tolfenpyrad	65.5	48.3	49.8		3.17
	Triclopyr	100	99.6	105		5.68

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2157662
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2157662

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	02/14/2020	02/18/2020 10:00	Rebecca Ware	02/18/2020 13:41	Rebecca Ware	2157662
	02/14/2020	02/18/2020 10:00	Rebecca Ware	02/20/2020 10:45	Rebecca Ware	2157662
	02/14/2020	02/18/2020 10:00	Rebecca Ware	02/26/2020 14:08	Rebecca Ware	2157662
	02/14/2020	02/19/2020 09:00	Hoor Shaik	02/21/2020 12:26	Juyoung Kim	2157662