Chemical Analysis Report

SW-DIST-2018-09-20-01

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

Event Description: **Pinellas LR5- Pinellas Park Ditch#5**
Request ID: **RQ-2018-09-03-02**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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13051 N. Telecom Parkway
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Certified by: Colin Wright, Program Administrator

Date Certified: 04-OCT-2018 12:29

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: Joe's Crk @ 62nd & 42nd (PC 35-10) **Collection Date/Time: 09/19/2018 09:23**

Field ID: G5SW0137 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2026897	EPA 8321B	2,4-D	0.018		ug/L	P351931	
		Bentazon	0.025		ug/L	P351931	
		MCPP	0.0057	I	ug/L	P351931	
		Triclopyr**	0.0040	U	ug/L	P351931	MS
		Imidacloprid	0.048		ug/L	P351931	
		Diuron	0.0055	I	ug/L	P351931	
		Pyraclostrobin**	0.0020	U	ug/L	P351931	
		Primidone**	0.0040	U	ug/L	P351931	
		Linuron	0.0040	U	ug/L	P351931	
		Acetaminophen**	0.0080	U	ug/L	P351931	
		Fenuron	0.016	U	ug/L	P351931	
		Imazapyr**	0.021		ug/L	P351931	
		Carbamazepine**	8.0E-04	U	ug/L	P351931	
		Fluridone**	0.0059		ug/L	P351931	
		Hydrocodone**	8.0E-04	U	ug/L	P351931	
		Naproxen**	0.0080	U	ug/L	P351931	
		Ibuprofen**	0.020	U	ug/L	P351931	
		Sucralose**	0.12		ug/L	P351895	
		Acesulfame K**	0.10	U	ug/L	P351895	

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P351895

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P351931

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	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P351895

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	114		P	40 - 150
Sucralose	129		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P351931

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	66.6		P	40 - 150
Acetaminophen	124		P	30 - 150
Bentazon	84.2		P	30 - 150
Carbamazepine	102		P	40 - 150
Diuron	83.4		P	40 - 150
Fenuron	118		P	40 - 150
Fluridone	60.2		P	40 - 150
Hydrocodone	121		P	40 - 150
Ibuprofen	87.8		P	40 - 150
Imazapyr	71.7		P	40 - 150
Imidacloprid	101		P	40 - 160
Linuron	71.8		P	40 - 150
MCPP	102		P	40 - 150
Naproxen	86.1		P	40 - 150
Primidone	80.7		P	40 - 150
Pyraclostrobin	88.1		P	40 - 150
Triclopyr	106		P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P351895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2026897	Acesulfame K	94.1	96.1	P/P	40 - 150
2026897	Sucralose	124	140	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P351931

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2027105	2,4-D	87.4	78.2	P/P	40 - 150
2027105	Acetaminophen	95.9	101	P/P	30 - 150
2027105	Bentazon	47.4	40.3	P/P	30 - 150
2027105	Carbamazepine	67.2	79.3	P/P	40 - 150
2027105	Diuron	55.5	67.5	P/P	40 - 150
2027105	Fenuron	69.7	75.2	P/P	40 - 150
2027105	Fluridone	55.9	87.9	P/P	40 - 150
2027105	Hydrocodone	92.8	98.7	P/P	40 - 150
2027105	Ibuprofen	74.8	70.3	P/P	40 - 150
2027105	Imazapyr	46.3	75.0	P/P	40 - 150
2027105	Imidacloprid	113	143	P/P	40 - 160
2027105	Linuron	55.3	62.2	P/P	40 - 150
2027105	MCPP	125	126	P/P	40 - 150
2027105	Naproxen	102	101	P/P	40 - 150
2027105	Primidone	67.0	72.8	P/P	40 - 150
2027105	Pyraclostrobin	80.3	86.4	P/P	40 - 150
2027105	Triclopyr	153	156	F/F	40 - 150

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P351895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2026897	Acesulfame K	2.09	Spike	P	0 - 30
2026897	Sucralose	11.2	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P351931

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2027105	2,4-D	8.44	Spike	P	0 - 30
2027105	Acetaminophen	4.78	Spike	P	0 - 30
2027105	Bentazon	6.06	Spike	P	0 - 30
2027105	Carbamazepine	16.5	Spike	P	0 - 30
2027105	Diuron	17.0	Spike	P	0 - 30
2027105	Fenuron	7.70	Spike	P	0 - 30
2027105	Fluridone	10.6	Spike	P	0 - 30
2027105	Hydrocodone	6.16	Spike	P	0 - 30
2027105	Ibuprofen	6.24	Spike	P	0 - 30
2027105	Imazapyr	11.6	Spike	P	0 - 30
2027105	Imidacloprid	14.0	Spike	P	0 - 30
2027105	Linuron	11.9	Spike	P	0 - 30
2027105	MCPP	0.821	Spike	P	0 - 30
2027105	Naproxen	0.930	Spike	P	0 - 30
2027105	Primidone	8.23	Spike	P	0 - 30
2027105	Pyraclostrobin	7.27	Spike	P	0 - 30
2027105	Triclopyr	2.18	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: 2026897
Field Sample ID: G5SW0137

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	88.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	119	P	30 - 160
EPA 8321B	Carbamazepine-d10	65.2	P	30 - 160
EPA 8321B	Diuron-d6	61.4	P	30 - 160
EPA 8321B	Endothall-d6	129	P	40 - 160
EPA 8321B	Ibuprofen-d3	71.5	P	30 - 160
EPA 8321B	Primidone-d5	75.9	P	30 - 160
EPA 8321B	Sucralose-d6	149	P	40 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A86652
Included Lab Sample IDs: 2026897

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	119	128	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A86656
Included Lab Sample IDs: 2026897

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	87.7	120	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A86696
Included Lab Sample IDs: 2026897

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	110	88.1	P/P	60 - 160
Carbamazepine	118	123	P/P	60 - 160
Diuron	95.2	110	P/P	60 - 150
Fenuron	107	110	P/P	60 - 150
Fluridone	103	106	P/P	60 - 160
Hydrocodone	96.7	106	P/P	60 - 150
Imazapyr	85.9	67.9	P/P	50 - 150
Imidacloprid	94.2	96.7	P/P	60 - 150
Linuron	98.9	105	P/P	60 - 150
Primidone	91.8	91.2	P/P	60 - 150
Pyraclostrobin	112	119	P/P	60 - 150

Reference Method: EPA 8321B
Run ID: A86770
Included Lab Sample IDs: 2026897

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	104	113	P/P	50 - 150
Bentazon	120	123	P/P	50 - 160
Ibuprofen	95.0	93.0	P/P	50 - 160
MCPP	103	107	P/P	50 - 150
Naproxen	86.2	112	P/P	50 - 160
Triclopyr	111	107	P/P	50 - 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		
					LCS	SMP	MS
EPA 8321B	2,4-D	66.6	87.4	78.2			8.44
	Acesulfame K	114	94.1	96.1			2.09
	Acetaminophen	124	95.9	101			4.78
	Bentazon	84.2	47.4	40.3			6.06
	Carbamazepine	102	67.2	79.3			16.5
	Diuron	83.4	55.5	67.5			17.0
	Fenuron	118	69.7	75.2			7.70
	Fluridone	60.2	55.9	87.9			10.6
	Hydrocodone	121	92.8	98.7			6.16
	Ibuprofen	87.8	74.8	70.3			6.24
	Imazapyr	71.7	46.3	75.0			11.6
	Imidacloprid	101	113	143			14.0
	Linuron	71.8	55.3	62.2			11.9
	MCPP	102	125	126			0.821
	Naproxen	86.1	102	101			0.930
	Primidone	80.7	67.0	72.8			8.23
	Pyraclostrobin	88.1	80.3	86.4			7.27
	Sucralose	129	124	140			11.2
	Triclopyr	106	153	156			2.18

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2026897

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	09/20/2018	09/21/2018 10:00	Hoor Shaik	09/25/2018 03:28	Mohammad Ghaffari	2026897
	09/20/2018	09/21/2018 10:00	Hoor Shaik	09/28/2018 08:51	Juyoung Kim	2026897
	09/20/2018	09/21/2018 13:00	Mohammad Ghaffari	09/22/2018 01:07	Mohammad Ghaffari	2026897
	09/20/2018	09/21/2018 13:00	Mohammad Ghaffari	09/22/2018 18:43	Mohammad Ghaffari	2026897