

Chemical Analysis Report

SW-DIST-2018-08-28-01

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

Event Description: **Blackwater @ county park**

Request ID: **RQ-2018-08-27-33**

Customer: **SW-DIST**

Project ID: **SMP**

Send Reports to:

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Date Certified: 10-SEP-2018 11:48



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: Blackwater Cr @ CR39

Collection Date/Time: 08/27/2018 09:55

Field ID: G2SW0064

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2020539	EPA 8321B	2,4-D	0.089		ug/L	P350709	MS
		Bentazon	0.0031	I	ug/L	P350709	
		MCP	0.0070	I	ug/L	P350709	MS
		Triclopyr**	0.0040	U	ug/L	P350709	MS
		Imidacloprid	0.015		ug/L	P350709	
		Diuron	0.017		ug/L	P350709	
		Pyraclostrobin**	0.0020	U	ug/L	P350709	
		Primidone**	0.0040	U	ug/L	P350709	
		Linuron	0.0040	U	ug/L	P350709	
		Acetaminophen**	0.0080	U	ug/L	P350709	
		Fenuron	0.016	U	ug/L	P350709	
		Imazapyr**	0.030		ug/L	P350709	
		Carbamazepine**	0.0014	I	ug/L	P350709	
		Fluridone**	0.0038		ug/L	P350709	
		Hydrocodone**	8.0E-04	U	ug/L	P350709	
		Naproxen**	0.0080	U	ug/L	P350709	
		Ibuprofen**	0.020	U	ug/L	P350709	
		Sucralose**	0.71		ug/L	P350691	
		Acesulfame K**	0.10	U	ug/L	P350691	

Sample Location: Blackwater Cr @ CR39

Collection Date/Time: 08/27/2018 10:00

Field ID: G2SW0064_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2020540	EPA 8321B	2,4-D	0.090		ug/L	P350709	MS
		Bentazon	0.0035		ug/L	P350709	
		MCP	0.0079	I	ug/L	P350709	MS
		Triclopyr**	0.0040	U	ug/L	P350709	MS
		Imidacloprid	0.014		ug/L	P350709	
		Diuron	0.017		ug/L	P350709	
		Pyraclostrobin**	0.0020	U	ug/L	P350709	
		Primidone**	0.0040	U	ug/L	P350709	
		Linuron	0.0040	U	ug/L	P350709	
		Acetaminophen**	0.0080	U	ug/L	P350709	
		Fenuron	0.016	U	ug/L	P350709	
		Imazapyr**	0.028		ug/L	P350709	
		Carbamazepine**	0.0012	I	ug/L	P350709	
		Fluridone**	0.0037		ug/L	P350709	
		Hydrocodone**	8.0E-04	U	ug/L	P350709	
		Naproxen**	0.0080	U	ug/L	P350709	
		Ibuprofen**	0.020	U	ug/L	P350709	
		Sucralose**	0.75		ug/L	P350691	
		Acesulfame K**	0.10	U	ug/L	P350691	

Sample Location: Field Blank_08/27/2018

Collection Date/Time: 08/27/2018 11:00

Field ID: BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2020541	EPA 8321B	2,4-D	0.0020	U	ug/L	P350709	MS
		Bentazon	8.0E-04	U	ug/L	P350709	
		MCP	0.0020	U	ug/L	P350709	MS
		Triclopyr**	0.0040	U	ug/L	P350709	MS
		Imidacloprid	0.0020	U	ug/L	P350709	
		Diuron	0.0020	U	ug/L	P350709	
		Pyraclostrobin**	0.0020	U	ug/L	P350709	
		Primidone**	0.0040	U	ug/L	P350709	
		Linuron	0.0040	U	ug/L	P350709	
		Acetaminophen**	0.0080	U	ug/L	P350709	
		Fenuron	0.016	U	ug/L	P350709	
		Imazapyr**	0.0040	U	ug/L	P350709	
		Carbamazepine**	8.0E-04	U	ug/L	P350709	
		Fluridone**	4.0E-04	U	ug/L	P350709	
		Hydrocodone**	8.0E-04	U	ug/L	P350709	
		Naproxen**	0.0080	U	ug/L	P350709	
		Ibuprofen**	0.020	U	ug/L	P350709	
		Sucralose**	0.010	U	ug/L	P350691	
		Acesulfame K**	0.10	U	ug/L	P350691	

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P350691

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

Reference Method: EPA 8321B
Batch ID: P350709

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: P350691

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	101		P	40 - 150
Sucralose	122		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P350709

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	96.9		P	40 - 150
Acetaminophen	99.9		P	30 - 150
Bentazon	104		P	30 - 150
Carbamazepine	74.9		P	40 - 150
Diuron	69.4		P	40 - 150
Fenuron	82.4		P	40 - 150
Fluridone	78.6		P	40 - 150
Hydrocodone	87.9		P	40 - 150
Ibuprofen	107		P	40 - 150
Imazapyr	84.9		P	40 - 150
Imidacloprid	100		P	40 - 160
Linuron	64.0		P	40 - 150
MCPP	116		P	40 - 150
Naproxen	123		P	40 - 150
Primidone	101		P	40 - 150
Pyraclostrobin	71.7		P	40 - 150
Triclopyr	112		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P350691

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019942	Acesulfame K	89.7	94.1	P/P	40 - 150
2019942	Sucralose	117	118	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P350709

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019942	2,4-D	168	151	F/F	40 - 150
2019942	Acetaminophen	125	119	P/P	30 - 150
2019942	Bentazon	91.9	83.2	P/P	30 - 150
2019942	Carbamazepine	72.0	69.8	P/P	40 - 150
2019942	Diuron	61.8	61.6	P/P	40 - 150
2019942	Fenuron	57.7	55.8	P/P	40 - 150
2019942	Fluridone	80.4	67.4	P/P	40 - 150
2019942	Hydrocodone	82.9	79.2	P/P	40 - 150
2019942	Ibuprofen	95.9	90.0	P/P	40 - 150
2019942	Imazapyr	107	101	P/P	40 - 150
2019942	Imidacloprid	129	131	P/P	40 - 160
2019942	Linuron	67.0	59.5	P/P	40 - 150
2019942	MCP	177	155	F/F	40 - 150
2019942	Naproxen	133	127	P/P	40 - 150
2019942	Primidone	80.9	69.3	P/P	40 - 150
2019942	Pyraclostrobin	71.2	70.6	P/P	40 - 150
2019942	Triclopyr	215	217	F/F	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P350691

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019942	Acesulfame K	4.74	Spike	P	0 - 30
2019942	Sucralose	0.944	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P350709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019942	2,4-D	10.6	Spike	P	0 - 30
2019942	Acetaminophen	4.47	Spike	P	0 - 30
2019942	Bentazon	9.34	Spike	P	0 - 30
2019942	Carbamazepine	3.17	Spike	P	0 - 30
2019942	Diuron	0.337	Spike	P	0 - 30
2019942	Fenuron	3.43	Spike	P	0 - 30
2019942	Fluridone	17.6	Spike	P	0 - 30
2019942	Hydrocodone	4.54	Spike	P	0 - 30
2019942	Ibuprofen	6.34	Spike	P	0 - 30
2019942	Imazapyr	5.58	Spike	P	0 - 30
2019942	Imidacloprid	1.86	Spike	P	0 - 30
2019942	Linuron	11.9	Spike	P	0 - 30
2019942	MCP	13.3	Spike	P	0 - 30
2019942	Naproxen	4.53	Spike	P	0 - 30
2019942	Primidone	15.5	Spike	P	0 - 30
2019942	Pyraclostrobin	0.934	Spike	P	0 - 30
2019942	Triclopyr	1.07	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: 2020539

Field Sample ID: G2SW0064

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	144	P	30 - 160
EPA 8321B	Acetaminophen-d4	108	P	30 - 160
EPA 8321B	Carbamazepine-d10	70.2	P	30 - 160
EPA 8321B	Diuron-d6	72.3	P	30 - 160
EPA 8321B	Endothall-d6	156	P	40 - 160
EPA 8321B	Ibuprofen-d3	94.7	P	30 - 160
EPA 8321B	Primidone-d5	56.1	P	30 - 160
EPA 8321B	Sucralose-d6	131	P	40 - 160

Lab Sample ID: 2020540

Field Sample ID: G2SW0064_DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	146	P	30 - 160
EPA 8321B	Acetaminophen-d4	93.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	68.2	P	30 - 160
EPA 8321B	Diuron-d6	64.6	P	30 - 160
EPA 8321B	Endothall-d6	133	P	40 - 160
EPA 8321B	Ibuprofen-d3	101	P	30 - 160
EPA 8321B	Primidone-d5	52.1	P	30 - 160
EPA 8321B	Sucralose-d6	128	P	40 - 160

Lab Sample ID: 2020541

Field Sample ID: BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	60.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	91.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	75.8	P	30 - 160
EPA 8321B	Diuron-d6	81.3	P	30 - 160
EPA 8321B	Endothall-d6	90.9	P	40 - 160
EPA 8321B	Ibuprofen-d3	84.7	P	30 - 160
EPA 8321B	Primidone-d5	92.6	P	30 - 160
EPA 8321B	Sucralose-d6	108	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A86190

Included Lab Sample IDs: 2020539, 2020540, 2020541

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	87.9	85.8	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A86218

Included Lab Sample IDs: 2020539, 2020540, 2020541

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	93.4	85.6	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A86219

Included Lab Sample IDs: 2020539, 2020540, 2020541

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	87.1	84.5	P/P	50 - 150
Acetaminophen	109	106	P/P	60 - 160
Bentazon	94.6	84.2	P/P	50 - 160
Carbamazepine	109	102	P/P	60 - 160
Diuron	96.2	104	P/P	60 - 150
Fenuron	97.8	107	P/P	60 - 150
Fluridone	91.9	83.4	P/P	60 - 160
Hydrocodone	105	97.5	P/P	60 - 150
Ibuprofen	134	124	P/P	50 - 160
Imazapyr	79.5	90.1	P/P	50 - 150
Imidacloprid	85.2	94.8	P/P	60 - 150
Linuron	104	106	P/P	60 - 150
MCPP	98.8	90.2	P/P	50 - 150
Naproxen	93.1	146	P/P	50 - 160
Primidone	99.6	101	P/P	60 - 150
Pyraclostrobin	92.4	95.6	P/P	60 - 150
Triclopyr	97.9	84.6	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 SMP	MS
			LCS			
EPA 8321B	2,4-D	96.9	168	151		10.6
	Acesulfame K	101	89.7	94.1		4.74
	Acetaminophen	99.9	125	119		4.47
	Bentazon	104	91.9	83.2		9.34
	Carbamazepine	74.9	72.0	69.8		3.17
	Diuron	69.4	61.8	61.6		0.337
	Fenuron	82.4	57.7	55.8		3.43
	Fluridone	78.6	80.4	67.4		17.6
	Hydrocodone	87.9	82.9	79.2		4.54
	Ibuprofen	107	95.9	90.0		6.34
	Imazapyr	84.9	107	101		5.58
	Imidacloprid	100	129	131		1.86
	Linuron	64.0	67.0	59.5		11.9
	MCPP	116	177	155		13.3
	Naproxen	123	133	127		4.53
	Primidone	101	80.9	69.3		15.5
	Pyraclostrobin	71.7	71.2	70.6		0.934
	Sucralose	122	117	118		0.944
	Triclopyr	112	215	217		1.07

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2020539, 2020540, 2020541

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	08/28/2018	08/29/2018 11:00	Hoor Shaik	08/30/2018 11:50	Juyoung Kim	2020539
	08/28/2018	08/29/2018 11:00	Hoor Shaik	08/30/2018 12:24	Juyoung Kim	2020540
	08/28/2018	08/29/2018 11:00	Hoor Shaik	08/30/2018 12:59	Juyoung Kim	2020541
	08/28/2018	08/29/2018 11:00	Hoor Shaik	08/31/2018 04:33	Juyoung Kim	2020539
	08/28/2018	08/29/2018 11:00	Hoor Shaik	08/31/2018 05:08	Juyoung Kim	2020540
	08/28/2018	08/29/2018 11:00	Hoor Shaik	08/31/2018 05:42	Juyoung Kim	2020541
	08/28/2018	08/29/2018 11:50	Mohammad Ghaffari	08/29/2018 16:19	Mohammad Ghaffari	2020539
	08/28/2018	08/29/2018 11:50	Mohammad Ghaffari	08/29/2018 16:34	Mohammad Ghaffari	2020540
	08/28/2018	08/29/2018 11:50	Mohammad Ghaffari	08/29/2018 16:49	Mohammad Ghaffari	2020541
	08/28/2018	08/29/2018 11:50	Mohammad Ghaffari	08/30/2018 17:09	Mohammad Ghaffari	2020539
	08/28/2018	08/29/2018 11:50	Mohammad Ghaffari	08/30/2018 17:24	Mohammad Ghaffari	2020540
	08/28/2018	08/29/2018 11:50	Mohammad Ghaffari	08/30/2018 17:39	Mohammad Ghaffari	2020541