

Chemical Analysis Report

SW-DIST-2018-04-06-01

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

Event Description: **Pinellas LR2- Cedar Tidal**
Request ID: **RQ-2018-04-02-10**
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: 04-MAY-2018 14:50



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: Cedar Creek Tidal

Collection Date/Time: 04/05/2018 09:16

Field ID: G5SW0128

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1982098	EPA 8321B	2,4-D	0.013		ug/L	P342880	
		Sucralose**	0.88		ug/L	P342827	
		Bentazon	0.046		ug/L	P342880	
		MCP	0.014		ug/L	P342880	
		Triclopyr**	0.0040	U	ug/L	P342880	
		Imidacloprid	0.022		ug/L	P342880	MS
		Diuron	0.0020	U	ug/L	P342880	
		Pyraclostrobin**	0.0020	U	ug/L	P342880	
		Primidone**	0.019		ug/L	P342880	
		Linuron	0.0040	U	ug/L	P342880	
		Acetaminophen**	0.0080	U	ug/L	P342880	MS
		Fenuron	0.016	U	ug/L	P342880	
		Imazapyr**	5.5		ug/L	P342880	
		Carbamazepine**	0.0017		ug/L	P342880	
		Fluridone**	0.024		ug/L	P342880	
		Hydrocodone**	8.0E-04	U	ug/L	P342880	

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P342827

Component	Result	Code	Units
Sucralose	0.11	U	ug/L

Reference Method: EPA 8321B
Batch ID: P342880

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	4.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.021	I	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	8.0E-04	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCP	0.0020	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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P342827

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	115		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P342880

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	100		P	40 - 150
Acetaminophen	120		P	30 - 150
Bentazon	109		P	30 - 150
Carbamazepine	84.9		P	40 - 150
Diuron	65.1		P	40 - 150
Fenuron	124		P	40 - 150
Fluridone	60.3		P	40 - 150
Hydrocodone	112		P	40 - 150
Imazapyr	88.7		P	40 - 150
Imidacloprid	115		P	40 - 160
Linuron	78.1		P	40 - 150
MCP	92.3		P	40 - 150
Primidone	108		P	40 - 150
Pyraclostrobin	70.8		P	40 - 150
Triclopyr	91.0		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P342827

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1981709	Sucralose	51.2	49.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P342880

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1983038	2,4-D	103	106	P/P	40 - 150
1983038	Acetaminophen	162	156	F/F	30 - 150
1983038	Bentazon	36.3	30.2	P/P	30 - 150
1983038	Carbamazepine	105	108	P/P	40 - 150
1983038	Diuron	73.9	71.7	P/P	40 - 150
1983038	Fenuron	110	104	P/P	40 - 150
1983038	Fluridone	47.2	56.1	P/P	40 - 150
1983038	Hydrocodone	123	116	P/P	40 - 150
1983038	Imazapyr	109	92.7	P/P	40 - 150
1983038	Imidacloprid	248	233	F/F	40 - 160
1983038	Linuron	82.0	91.2	P/P	40 - 150
1983038	MCP	75.1	83.1	P/P	40 - 150
1983038	Primidone	108	113	P/P	40 - 150
1983038	Pyraclostrobin	53.9	65.6	P/P	40 - 150
1983038	Triclopyr	78.5	83.4	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P342827

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1981709	Sucralose	1.53	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P342880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1983038	2,4-D	2.47	Spike	P	0 - 30
1983038	Acetaminophen	3.67	Spike	P	0 - 30
1983038	Bentazon	16.4	Spike	P	0 - 30
1983038	Carbamazepine	3.18	Spike	P	0 - 30
1983038	Diuron	0.849	Spike	P	0 - 30
1983038	Fenuron	6.05	Spike	P	0 - 30
1983038	Fluridone	17.3	Spike	P	0 - 30
1983038	Hydrocodone	6.02	Spike	P	0 - 30
1983038	Imazapyr	14.2	Spike	P	0 - 30
1983038	Imidacloprid	6.33	Spike	P	0 - 30
1983038	Linuron	10.7	Spike	P	0 - 30
1983038	MCPP	10.1	Spike	P	0 - 30
1983038	Primidone	4.90	Spike	P	0 - 30
1983038	Pyraclostrobin	19.5	Spike	P	0 - 30
1983038	Triclopyr	5.98	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: 1982098
Field Sample ID: G5SW0128

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	128	P	30 - 160
EPA 8321B	Acetaminophen-d4	147	P	30 - 160
EPA 8321B	Carbamazepine-d10	129	P	30 - 160
EPA 8321B	Diuron-d6	97.6	P	30 - 160
EPA 8321B	Primidone-d5	145	P	30 - 160
EPA 8321B	Sucralose-d6	69.5	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A83192
Included Lab Sample IDs: 1982098

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	78.2	106	P/P	60 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A83283
Included Lab Sample IDs: 1982098

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	85.4	88.6	P/P	50 - 150
Acetaminophen	99.5	114	P/P	60 - 150
Bentazon	82.9	79.3	P/P	50 - 150
Carbamazepine	104	99.4	P/P	60 - 150
Diuron	106	111	P/P	60 - 150
Fenuron	110	119	P/P	60 - 150
Fluridone	98.9	92.0	P/P	60 - 160
Hydrocodone	113	112	P/P	60 - 150
Imazapyr	87.5	99.1	P/P	50 - 150
Imidacloprid	108	111	P/P	60 - 150
Linuron	104	107	P/P	60 - 150
MCP	94.2	94.2	P/P	50 - 150
Primidone	105	98.8	P/P	60 - 150
Pyraclostrobin	113	107	P/P	60 - 150
Triclopyr	95.7	96.4	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	LCS	Precision SMP	MS
EPA 8321B	2,4-D	100	103 106			2.47
	Acetaminophen	120	162 156			3.67
	Bentazon	109	36.3 30.2			16.4
	Carbamazepine	84.9	108 105			3.18
	Diuron	65.1	73.9 71.7			0.849
	Fenuron	124	110 104			6.05
	Fluridone	60.3	56.1 47.2			17.3
	Hydrocodone	112	123 116			6.02
	Imazapyr	88.7	109 92.7			14.2
	Imidacloprid	115	248 233			6.33
	Linuron	78.1	82.0 91.2			10.7
	MCP	92.3	75.1 83.1			10.1
	Primidone	108	108 113			4.90
	Pyraclostrobin	70.8	53.9 65.6			19.5
	Sucralose	115	51.2 49.6			1.53
	Triclopyr	91.0	78.5 83.4			5.98

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1982098
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1982098

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	04/06/2018	04/09/2018 11:30	Julie Michelle Frank	04/11/2018 13:49	Julie Michelle Frank	1982098
	04/06/2018	04/11/2018 09:00	Hoor Shaik	04/13/2018 09:49	Julie Michelle Frank	1982098
	04/06/2018	04/11/2018 09:00	Hoor Shaik	04/13/2018 13:52	Julie Michelle Frank	1982098
	04/06/2018	04/11/2018 09:00	Hoor Shaik	04/14/2018 01:58	Julie Michelle Frank	1982098