

Chemical Analysis Report

SO-DIST-2021-09-22-02

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

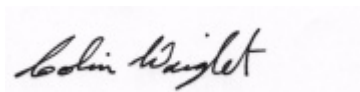
Event Description: **2021 SMP: Peace River**
Request ID: **RQ-2021-09-20-53**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: William Mullen

For additional information please contact
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Kerry Tate, Ph.D.
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Certified by: Colin Wright, Program Administrator

Date Certified: 07-OCT-2021 16:08



NON-CONFORMANCE REPORT INCLUDED

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: Peace River Above Horse Creek 2

Collection Date/Time: 09/20/2021 09:55

Field ID: G3SD0154

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2277470	EPA 8321B	Aldicarb	0.020	U	ug/L	P404232	
		Aldicarb Sulfone	0.0020	U	ug/L	P404232	
		Aldicarb Sulfoxide	0.0020	UJ	ug/L	P404232	MS
		Carbaryl	0.0020	U	ug/L	P404232	
		Carbofuran	0.0020	U	ug/L	P404232	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P404232	
		Methiocarb	0.0020	U	ug/L	P404232	
		Methomyl	0.0020	U	ug/L	P404232	
		Oxamyl	0.0020	U	ug/L	P404232	
		Propoxur	0.0020	U	ug/L	P404232	

Ref. Method and Comment:

EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: FB

Collection Date/Time: 09/20/2021 10:45

Field ID: FB_09202021

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2277471	EPA 8321B	Aldicarb	0.020	U	ug/L	P404232	
		Aldicarb Sulfone	0.0020	U	ug/L	P404232	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P404232	MS
		Carbaryl	0.0020	U	ug/L	P404232	
		Carbofuran	0.0020	U	ug/L	P404232	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P404232	
		Methiocarb	0.0020	U	ug/L	P404232	
		Methomyl	0.0020	U	ug/L	P404232	
		Oxamyl	0.0020	U	ug/L	P404232	
		Propoxur	0.0020	U	ug/L	P404232	

Non-Conformance Report

NCR ID: 9046

Event(s)

SO-DIST-2021-09-22-02

Job(s)

Sample(s)

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Samples arrived late

Observation: Samples arrived late, samples received within the acceptable temperature range.

Resolution: Samples will be qualified as appropriate.

Authorized by/Date: Joshua Ayres 9/24/2021

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P404232

Component	Result	Code	Units
3-Hydroxycarbofuran	0.0020	U	ug/L
Aldicarb	0.020	U	ug/L
Aldicarb Sulfone	0.0020	U	ug/L
Aldicarb Sulfoxide	0.0020	U	ug/L
Carbaryl	0.0020	U	ug/L
Carbofuran	0.0020	U	ug/L
Methiocarb	0.0020	U	ug/L
Methomyl	0.0020	U	ug/L
Oxamyl	0.0020	U	ug/L
Propoxur	0.0020	U	ug/L

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P404232

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
3-Hydroxycarbofuran	83.9		P	40 - 150
Aldicarb	83.4		P	30 - 150
Aldicarb Sulfone	87.6		P	40 - 150
Aldicarb Sulfoxide	93.1		P	40 - 150
Carbaryl	76.4		P	40 - 150
Carbofuran	91.6		P	40 - 150
Methiocarb	71.6		P	40 - 150
Methomyl	90.4		P	40 - 150
Oxamyl	85.5		P	40 - 150
Propoxur	83.5		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P404232

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2277470	3-Hydroxycarbofuran	81.0	87.8	P/P	40 - 150
2277470	Aldicarb	57.0	71.4	P/P	30 - 150
2277470	Aldicarb Sulfone	107	111	P/P	40 - 150
2277470	Aldicarb Sulfoxide	38.4	40.3	F/P	40 - 150
2277470	Carbaryl	69.4	68.3	P/P	40 - 150
2277470	Carbofuran	76.3	79.5	P/P	40 - 150
2277470	Methiocarb	67.2	71.5	P/P	40 - 150
2277470	Methomyl	82.7	95.1	P/P	40 - 150
2277470	Oxamyl	85.1	92.8	P/P	40 - 150
2277470	Propoxur	74.3	75.5	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P404232

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2277470	3-Hydroxycarbofuran	8.08	Spike	P	0 - 30
2277470	Aldicarb	22.5	Spike	P	0 - 30
2277470	Aldicarb Sulfone	3.30	Spike	P	0 - 30
2277470	Aldicarb Sulfoxide	4.80	Spike	P	0 - 30
2277470	Carbaryl	1.64	Spike	P	0 - 30
2277470	Carbofuran	4.11	Spike	P	0 - 30
2277470	Methiocarb	6.09	Spike	P	0 - 30
2277470	Methomyl	14.0	Spike	P	0 - 30
2277470	Oxamyl	8.63	Spike	P	0 - 30
2277470	Propoxur	1.59	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2277470
Field Sample ID: G3SD0154

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	71.4	P	30 - 160

Lab Sample ID: 2277471
Field Sample ID: FB_09202021

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	84.9	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A108043

Included Lab Sample IDs: 2277470, 2277471

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
3-Hydroxycarbofuran	105	99.9	P/P	60 - 150
Aldicarb	87.2	102	P/P	60 - 150
Aldicarb Sulfone	107	107	P/P	50 - 150
Aldicarb Sulfoxide	104	98.1	P/P	50 - 150
Carbaryl	98.9	116	P/P	60 - 150
Carbofuran	101	110	P/P	50 - 150
Methiocarb	96.0	87.9	P/P	50 - 150
Methomyl	104	104	P/P	50 - 150
Oxamyl	99.9	99.0	P/P	50 - 150
Propoxur	107	115	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		Precision SMP	MS
			LCS			
EPA 8321B	3-Hydroxycarbofuran	83.9	81.0	87.8		8.08
	Aldicarb	83.4	57.0	71.4		22.5
	Aldicarb Sulfone	87.6	107	111		3.30
	Aldicarb Sulfoxide	93.1	38.4	40.3		4.80
	Carbaryl	76.4	69.4	68.3		1.64
	Carbofuran	91.6	76.3	79.5		4.11
	Methiocarb	71.6	67.2	71.5		6.09
	Methomyl	90.4	82.7	95.1		14.0
	Oxamyl	85.5	85.1	92.8		8.63
	Propoxur	83.5	74.3	75.5		1.59

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Carbamates in water matrices by HPLC/MS/MS	2277470, 2277471

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	09/22/2021	09/27/2021 09:00	Hoor Shaik	09/28/2021 21:58	Juyoung Kim	2277470
	09/22/2021	09/27/2021 09:00	Hoor Shaik	09/28/2021 22:33	Juyoung Kim	2277471