



12423 NE Whitaker Way
 Portland, OR 97230
 503-254-1794



Report Number: 23-008138/D006.R000
Report Date: 07/18/2023
ORELAP#: OR100028
Purchase Order:
Received: 07/11/23 14:30

Customer: The Hemp Collect
Product identity: Live CBD Knockout Extract - Blue Orchid
Client/Metric ID: 104423192011
Laboratory ID: 23-008138-0010

Summary

Potency:

Analyte	Result (%)		
CBD	39.4		CBD-Total 43.4%
CBN	9.77		THC-Total 0.263%
CBG	5.72		(Reported in percent of total sample)
CBD-A	4.56		
THC-A	0.300		
CBG-A	0.149		

Residual Solvents:

Analyte	Result (µg/g)	Limits (µg/g)	Status
n-Butane	201		

Pesticides:

All analytes passing and less than LOQ.

Metals:

Less than LOQ for all analytes.



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Customer: The Hemp Collect
 825 NW 16th Ave
 Portland Oregon 97209
 United States of America (USA)

Product identity: Live CBD Knockout Extract - Blue Orchid
Client/Metric ID: 104423192011
Sample Date:
Laboratory ID: 23-008138-0010
Evidence of Cooling: No
Temp: 22.6 °C
Relinquished by: Hinton



Sample Results

Potency	Method: J AOAC 2015 V98-6 (mod) ^p			Units %	Batch: 2309035	Analyze: 7/12/23 11:29:00 PM
Analyte	As Received	Dry weight	LOQ	Notes		
CBD	39.4		0.677			
CBD-A	4.56		0.0677			
CBD-Total	43.4		0.736			
CBG	5.72		0.0677			
CBG-A	0.149		0.0677			
CBG-Total	5.85		0.126			
CBN	9.77		0.0677			
Δ10-THC-9R	< LOQ		0.0677			
Δ10-THC-9S	< LOQ		0.0677			
Δ10-THC-Total	< LOQ		0.135			
Δ8-THC	< LOQ		0.0677			
Δ9-THC	< LOQ		0.0677			
THC-A	0.300		0.0677			
THC-Total	0.263		0.127			
Total Cannabinoids	59.9					



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Solvents											
Method: Residual Solvents by GC/MS ^b											
Units µg/g Batch 2309154 Analyze 07/17/23 02:28 PM											
Analyte	Result	Limits	LOQ	Status	Notes	Analyte	Result	Limits	LOQ	Status	Notes
1,4-Dioxane	< LOQ	380	100	pass		2-Butanol	< LOQ	5000	200	pass	
2-Ethoxyethanol	< LOQ	160	30.0	pass		2-Methylbutane (Isopentane)	< LOQ		200		
2-Methylpentane	< LOQ		30.0			2-Propanol (IPA)	< LOQ	5000	200	pass	
2,2-Dimethylbutane	< LOQ		30.0			2,2-Dimethylpropane (neo-pentane)	< LOQ		200		
2,3-Dimethylbutane	< LOQ		30.0			3-Methylpentane	< LOQ		30.0		
Acetone	< LOQ	5000	200	pass		Acetonitrile	< LOQ	410	100	pass	
Benzene	< LOQ	2.00	1.00	pass		Butanes (sum)	< LOQ	5000	400	pass	
Cyclohexane	< LOQ	3880	200	pass		Ethyl acetate	< LOQ	5000	200	pass	
Ethyl benzene	< LOQ		200			Ethyl ether	< LOQ	5000	200	pass	
Ethylene glycol	< LOQ	620	200	pass		Ethylene oxide	< LOQ	50.0	20.0	pass	
Hexanes (sum)	< LOQ	290	150	pass		Isopropyl acetate	< LOQ	5000	200	pass	
Isopropylbenzene (Cumene)	< LOQ	70.0	30.0	pass		m,p-Xylene	< LOQ		200		
Methanol	< LOQ	3000	200	pass		Methylene chloride	< LOQ	600	60.0	pass	
Methylpropane (Isobutane)	< LOQ		200			n-Butane	201		200		
n-Heptane	< LOQ	5000	200	pass		n-Hexane	< LOQ		30.0		
n-Pentane	< LOQ		200			o-Xylene	< LOQ		200		
Pentanes (sum)	< LOQ	5000	600	pass		Propane	< LOQ	5000	200	pass	
Tetrahydrofuran	< LOQ	720	100	pass		Toluene	< LOQ	890	100	pass	
Total Xylenes	< LOQ		400			Total Xylenes and Ethyl benzene	< LOQ	2170	600	pass	



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Pesticides											
Method: AOAC 2007.01 & EN 15662 (mod) ^b											
Units mg/kg Batch 2309040 Analyze 07/13/23 02:39 PM											
Analyte	Result	Limits	LOQ	Status	Notes	Analyte	Result	Limits	LOQ	Status	Notes
Abamectin [¥]	< LOQ	0.50	0.250	pass		Acephate [¥]	< LOQ	0.40	0.200	pass	
Acequinocyl [¥]	< LOQ	2.0	1.00	pass		Acetamiprid [¥]	< LOQ	0.20	0.100	pass	
Aldicarb [¥]	< LOQ	0.40	0.200	pass		Azoxystrobin [¥]	< LOQ	0.20	0.100	pass	
Bifentazate [¥]	< LOQ	0.20	0.100	pass		Bifenthrin [¥]	< LOQ	0.20	0.100	pass	
Boscalid [¥]	< LOQ	0.40	0.200	pass		Carbaryl [¥]	< LOQ	0.20	0.100	pass	
Carbofuran [¥]	< LOQ	0.20	0.100	pass		Chlorantraniliprole [¥]	< LOQ	0.20	0.100	pass	
Chlorfenapyr [¥]	< LOQ	1.0	0.500	pass		Chlorpyrifos [¥]	< LOQ	0.20	0.100	pass	
Clofentezine [¥]	< LOQ	0.20	0.100	pass		Cyfluthrin [¥]	< LOQ	1.0	0.500	pass	
Cypermethrin [¥]	< LOQ	1.0	0.500	pass		Daminozide [¥]	< LOQ	1.0	0.500	pass	
Diazinon [¥]	< LOQ	0.20	0.100	pass		Dichlorvos [¥]	< LOQ	1.0	0.500	pass	
Dimethoate [¥]	< LOQ	0.20	0.100	pass		Ethoprophos [¥]	< LOQ	0.20	0.100	pass	
Etofenprox [¥]	< LOQ	0.40	0.200	pass		Etoxazole [¥]	< LOQ	0.20	0.100	pass	
Fenoxycarb [¥]	< LOQ	0.20	0.100	pass		Fenpyroximate [¥]	< LOQ	0.40	0.200	pass	
Fipronil [¥]	< LOQ	0.40	0.200	pass		Flonicamid [¥]	< LOQ	1.0	0.400	pass	
Fludioxonil [¥]	< LOQ	0.40	0.200	pass		Hexythiazox [¥]	< LOQ	1.0	0.400	pass	
Imazalil [¥]	< LOQ	0.20	0.100	pass		Imidacloprid [¥]	< LOQ	0.40	0.200	pass	
Kresoxim-methyl [¥]	< LOQ	0.40	0.200	pass		Malathion [¥]	< LOQ	0.20	0.100	pass	
Metalaxyl [¥]	< LOQ	0.20	0.100	pass		Methiocarb [¥]	< LOQ	0.20	0.100	pass	
Methomyl [¥]	< LOQ	0.40	0.200	pass		MGK-264 [¥]	< LOQ	0.20	0.100	pass	
Myclobutanil [¥]	< LOQ	0.20	0.100	pass		Naled [¥]	< LOQ	0.50	0.250	pass	
Oxamyl [¥]	< LOQ	1.0	0.500	pass		Paclobutrazole [¥]	< LOQ	0.40	0.200	pass	
Parathion-Methyl [¥]	< LOQ	0.20	0.100	pass		Permethrin [¥]	< LOQ	0.20	0.100	pass	
Phosmet [¥]	< LOQ	0.20	0.100	pass		Piperonyl butoxide [¥]	< LOQ	2.0	1.00	pass	
Prallethrin [¥]	< LOQ	0.20	0.100	pass		Propiconazole [¥]	< LOQ	0.40	0.200	pass	
Propoxur [¥]	< LOQ	0.20	0.100	pass		Pyrethrin I (total) [¥]	< LOQ	1.0	0.500	pass	
Pyridaben [¥]	< LOQ	0.20	0.100	pass		Spinosad [¥]	< LOQ	0.20	0.100	pass	
Spiromesifen [¥]	< LOQ	0.20	0.100	pass		Spirotetramat [¥]	< LOQ	0.20	0.100	pass	
Spiroxamine [¥]	< LOQ	0.40	0.200	pass		Tebuconazole [¥]	< LOQ	0.40	0.200	pass	
Thiacloprid [¥]	< LOQ	0.20	0.100	pass		Thiamethoxam [¥]	< LOQ	0.20	0.100	pass	
Trifloxystrobin [¥]	< LOQ	0.20	0.100	pass							

Metals										
Analyte	Result	Limits	Units	LOQ	Batch	Analyzed	Method	Status	Notes	
Arsenic [¥]	< LOQ	0.200	mg/kg	0.0853	2309029	07/12/23	AOAC 2013.06 (mod.) ^b	pass		
Cadmium [¥]	< LOQ	0.200	mg/kg	0.0853	2309029	07/12/23	AOAC 2013.06 (mod.) ^b	pass		
Lead [¥]	< LOQ	0.500	mg/kg	0.0853	2309029	07/12/23	AOAC 2013.06 (mod.) ^b	pass		
Mercury [¥]	< LOQ	0.100	mg/kg	0.0426	2309029	07/12/23	AOAC 2013.06 (mod.) ^b	pass		



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Abbreviations

Limits: Action Levels per OAR-333-007-0400, OAR-333-007-0210, OAR-333-007-0220, CCR title 16-division 42. BCC-section 5723

Limit(s) of Quantitation (LOQ): The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.

Ⓟ = ISO/IEC 17025:2017 accredited method.

¥ = TNI accredited analyte.

Units of Measure

µg/g = Microgram per gram

mg/kg = Milligram per kilogram = parts per million (ppm)

% = Percentage of sample

% wt = µg/g divided by 10,000

Approved Signatory

Derrick Tanner
General Manager



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Revision: 4 Document ID: 7148
Legacy ID: Worksheet Validated 04/20/2021

Laboratory Quality Control Results

J AOAC 2015 V98-6 Batch ID: 2309035

Laboratory Control Sample									
Analyte	LCS	Result	Spike	Units	% Rec	Limits		Evaluation	Notes
CBDVA	2	0.0789	0.0729	%	108	80.0	- 120	Acceptable	
CBDV	2	0.0782	0.0727	%	108	80.0	- 120	Acceptable	
CBE	2	0.0852	0.0803	%	106	80.0	- 120	Acceptable	
CBDA	1	0.0762	0.0750	%	102	90.0	- 110	Acceptable	
CBGA	1	0.0768	0.0753	%	102	80.0	- 120	Acceptable	
CBG	1	0.0780	0.0766	%	102	80.0	- 120	Acceptable	
CBD	1	0.0792	0.0779	%	102	90.0	- 110	Acceptable	
THCV	2	0.0574	0.0546	%	105	80.0	- 120	Acceptable	
d8THCV	2	0.0666	0.0644	%	103	80.0	- 120	Acceptable	
THCVA	2	0.0785	0.0711	%	110	80.0	- 120	Acceptable	
CBN	1	0.0787	0.0784	%	100	80.0	- 120	Acceptable	
exo-THC	2	0.0668	0.0653	%	102	80.0	- 120	Acceptable	
d9THC	1	0.0778	0.0759	%	103	90.0	- 110	Acceptable	
d8THC	1	0.0727	0.0738	%	98.5	90.0	- 110	Acceptable	
9S-d10THC	1	0.0782	0.0791	%	98.9	80.0	- 120	Acceptable	
CBL	2	0.0757	0.0718	%	105	80.0	- 120	Acceptable	
9R-d10THC	1	0.0709	0.0722	%	98.2	80.0	- 120	Acceptable	
CBC	2	0.0688	0.0675	%	102	80.0	- 120	Acceptable	
THCA	1	0.0733	0.0744	%	98.6	90.0	- 110	Acceptable	
CBCA	2	0.0797	0.0737	%	108	80.0	- 120	Acceptable	
CBLA	2	0.0748	0.0698	%	107	80.0	- 120	Acceptable	
d9THCP	2	0.0746	0.0752	%	99.3	80.0	- 120	Acceptable	
CBT	2	0.0708	0.0753	%	94.1	80.0	- 120	Acceptable	

Method Blank						
Analyte	Result	LOQ	Units	Limits		Evaluation
CBDVA	<LOQ	0.0735	%	< 0.0735		Acceptable
CBDV	<LOQ	0.0735	%	< 0.0735		Acceptable
CBE	<LOQ	0.0735	%	< 0.0735		Acceptable
CBDA	<LOQ	0.0735	%	< 0.0735		Acceptable
CBGA	<LOQ	0.0735	%	< 0.0735		Acceptable
CBG	<LOQ	0.0735	%	< 0.0735		Acceptable
CBD	<LOQ	0.0735	%	< 0.0735		Acceptable
THCV	<LOQ	0.0735	%	< 0.0735		Acceptable
d8THCV	<LOQ	0.0735	%	< 0.0735		Acceptable
THCVA	<LOQ	0.0735	%	< 0.0735		Acceptable
CBN	<LOQ	0.0735	%	< 0.0735		Acceptable
exo-THC	<LOQ	0.0735	%	< 0.0735		Acceptable
d9THC	<LOQ	0.0735	%	< 0.0735		Acceptable
d8THC	<LOQ	0.0735	%	< 0.0735		Acceptable
9S-d10THC	<LOQ	0.0735	%	< 0.0735		Acceptable
CBL	<LOQ	0.0735	%	< 0.0735		Acceptable
9R-d10THC	<LOQ	0.0735	%	< 0.0735		Acceptable
CBC	<LOQ	0.0735	%	< 0.0735		Acceptable
THCA	<LOQ	0.0735	%	< 0.0735		Acceptable
CBCA	<LOQ	0.0735	%	< 0.0735		Acceptable
CBLA	<LOQ	0.0735	%	< 0.0735		Acceptable
d9THCP	<LOQ	0.0735	%	< 0.0735		Acceptable
CBT	<LOQ	0.0735	%	< 0.0735		Acceptable

Abbreviations
ND - None Detected at or above MRL
RPD - Relative Percent Difference
LOQ - Limit of Quantitation

Units of Measure:
% - Percent



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Laboratory Quality Control Results

J AOAC 2015 V98-6		Batch ID: 2309035						
Sample Duplicate		Sample ID: 23-008095-0001						
Analyte	Result	Org. Result	LOQ	Units	RPD	Limits	Evaluation	Notes
CBDVA	<LOQ	<LOQ	0.0747	%	NA	< 20	Acceptable	
CBDV	<LOQ	<LOQ	0.0747	%	NA	< 20	Acceptable	
CBE	<LOQ	<LOQ	0.0747	%	NA	< 20	Acceptable	
CBDA	0.138	0.131	0.0747	%	5.21	< 20	Acceptable	
CBGA	1.36	1.34	0.0747	%	1.29	< 20	Acceptable	
CBG	0.159	0.158	0.0747	%	0.891	< 20	Acceptable	
CBD	<LOQ	<LOQ	0.0747	%	NA	< 20	Acceptable	
THCV	<LOQ	<LOQ	0.0747	%	NA	< 20	Acceptable	
d8THCV	<LOQ	<LOQ	0.0747	%	NA	< 20	Acceptable	
THCVA	0.369	0.365	0.0747	%	0.965	< 20	Acceptable	
CBN	<LOQ	<LOQ	0.0747	%	NA	< 20	Acceptable	
exo-THC	<LOQ	<LOQ	0.0747	%	NA	< 20	Acceptable	
d9THC	2.08	1.99	0.0747	%	4.11	< 20	Acceptable	
d8THC	0.562	0.553	0.0747	%	1.47	< 20	Acceptable	
9S-d10THC	<LOQ	<LOQ	0.0747	%	NA	< 20	Acceptable	
CBL	<LOQ	<LOQ	0.0747	%	NA	< 20	Acceptable	
9R-d10THC	<LOQ	<LOQ	0.0747	%	NA	< 20	Acceptable	
CBC	<LOQ	<LOQ	0.0747	%	NA	< 20	Acceptable	
THCA	73.5	72.9	0.0747	%	0.815	< 20	Acceptable	
CBCA	1.14	1.07	0.0747	%	6.66	< 20	Acceptable	
CBLA	<LOQ	<LOQ	0.0747	%	NA	< 20	Acceptable	
d9THCP	<LOQ	<LOQ	0.0747	%	NA	< 20	Acceptable	
CBT	<LOQ	<LOQ	0.0747	%	NA	< 20	Acceptable	

Abbreviations

ND - None Detected at or above MRL
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LOQ - Limit of Quantitation

Units of Measure:

% - Percent



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Laboratory Pesticide Quality Control Results

AOAC 2007.1 & EN 15662		Units: mg/Kg		Batch ID: 2309040				
Method Blank		Laboratory Control Sample						
Analyte	Blank Result	Blank Limits	Notes	LCS Result	LCS Spike	LCS % Rec	Limits	Notes
Abamectin	0.000	< 0.250		0.996	1.000	99.6	50.0	150
Acephate	0.000	< 0.200		0.671	0.800	83.8	60.0	120
Acetamiprid	0.000	< 1.000		3.881	4.000	97.0	40.0	160
Acetamiprid	0.000	< 0.100		0.379	0.400	94.8	60.0	120
Aldicarb	0.000	< 0.200		0.791	0.800	98.9	60.0	120
Azoxystrobin	0.000	< 0.100		0.395	0.400	98.8	60.0	120
Bifenazate	0.000	< 0.100		0.377	0.400	94.2	60.0	120
Bifenthrin	0.000	< 0.100		0.389	0.400	97.3	50.0	150
Boscalid	0.000	< 0.200		0.718	0.800	89.8	60.0	120
Carbaryl	0.000	< 0.100		0.382	0.400	95.4	60.0	120
Carbofuran	0.000	< 0.100		0.379	0.400	94.9	60.0	120
Chlorantraniliprole	0.000	< 0.100		0.395	0.400	98.8	60.0	120
Chlorfenapyr	0.000	< 0.500		1.619	2.000	80.9	60.0	120
Chlorpyrifos	0.000	< 0.100		0.347	0.400	86.7	60.0	120
Clofentazine	0.000	< 0.100		0.395	0.400	98.7	60.0	120
Cyfluthrin	0.000	< 0.500		2.064	2.000	103.2	50.0	150
Cypermethrin	0.000	< 0.500		1.916	2.000	95.8	50.0	150
Daminozide	0.383	< 0.500		2.187	2.000	109.4	60.0	120
Diazinon	0.000	< 0.100		0.371	0.400	92.8	60.0	120
Dichlorvos	0.000	< 0.500		1.856	2.000	92.8	60.0	120
Dimethoate	0.000	< 0.100		0.401	0.400	100.3	60.0	120
Ethoprophos	0.000	< 0.100		0.375	0.400	93.7	60.0	120
Etofenprox	0.000	< 0.200		0.770	0.800	96.3	50.0	150
Etoxazole	0.000	< 0.100		0.369	0.400	92.2	60.0	120
Fenoxycarb	0.000	< 0.100		0.395	0.400	98.7	60.0	120
Fenpyroximate	0.000	< 0.200		0.761	0.800	95.2	60.0	120
Fipronil	0.000	< 0.200		0.800	0.800	100.1	60.0	120
Fonicamid	0.000	< 0.250		1.118	1.000	111.8	60.0	120
Fludioxonil	0.000	< 0.200		0.747	0.800	93.3	50.0	150
Hexythiazox	0.000	< 0.250		0.983	1.000	98.3	60.0	120
Imazalil	0.000	< 0.100		0.392	0.400	98.1	60.0	120
Imidacloprid	0.000	< 0.200		0.776	0.800	97.0	60.0	120
Kresoxim-methyl	0.000	< 0.200		0.800	0.800	100.0	60.0	120
Malathion	0.000	< 0.100		0.383	0.400	95.8	60.0	120
Metlaxyl	0.000	< 0.100		0.391	0.400	97.6	60.0	120
Methiocarb	0.000	< 0.100		0.384	0.400	96.1	60.0	120
Methomyl	0.000	< 0.200		0.845	0.800	105.7	60.0	120
MGK-264	0.000	< 0.100		0.423	0.400	105.6	50.0	150
Myclobutanil	0.000	< 0.100		0.369	0.400	92.2	60.0	120
Naled	0.000	< 0.250		0.965	1.000	96.5	50.0	150
Oxamyl	0.000	< 0.500		2.031	2.000	101.5	60.0	120
Pacllobutrazole	0.000	< 0.200		0.762	0.800	95.2	60.0	120
Parathion-Methyl	0.000	< 0.100		0.376	0.400	94.0	50.0	150
Permethrin	0.000	< 0.100		0.371	0.400	92.9	50.0	150
Phosmet	0.000	< 0.100		0.406	0.400	101.4	50.0	150
Piperonyl butoxide	0.000	< 0.500		1.940	2.000	97.0	60.0	120
Prallethrin	0.000	< 0.100		0.378	0.400	94.6	60.0	120
Propiconazole	0.000	< 0.200		0.751	0.800	93.9	60.0	120
Propoxur	0.000	< 0.100		0.376	0.400	94.1	60.0	120
Pyrethrin (Summe)	0.001	< 0.100		0.493	0.488	101.0	60.0	120
Pyridaben	0.000	< 0.100		0.389	0.400	97.2	50.0	150
Spirosad	0.000	< 0.100		0.382	0.388	98.5	50.0	150
Spiromesifen	0.000	< 0.100		0.395	0.400	98.8	60.0	120
Spirotetramat	0.000	< 0.100		0.395	0.400	98.7	60.0	120
Spiroxamine	0.000	< 0.200		0.759	0.800	94.9	60.0	120
Tebuconazole	0.000	< 0.200		0.778	0.800	97.3	60.0	120
Thiacloprid	0.000	< 0.100		0.378	0.400	94.5	60.0	120
Thiamethoxam	0.000	< 0.100		0.421	0.400	105.1	60.0	120
Trifloxystrobin	0.000	< 0.100		0.388	0.400	97.1	60.0	120



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Report Number: 23-008138/D006.R000
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Revision: 3 Document ID: 3120
 Legacy ID: CFL-C21 Worksheet Validated 10/30/2020

Laboratory Pesticide Quality Control Results

AOAC 2007.1 & EN 15662		Units: mg/Kg					Batch ID: 2309040			
Matrix Spike/Matrix Spike Duplicate Recoveries		Sample ID: 23-008095-0001								
Analyte	Result	MS Res	MSD Res	Spike	RPD%	Limit	MS % Rec	MSD % Rec	Limits	Notes
Abamectin	0.000	0.794	0.906	1.000	13.3%	< 30	79.4%	90.6%	50 - 150	
Acephate	0.000	0.842	0.667	0.800	23.2%	< 30	105.3%	83.4%	50 - 150	
Acequinocyl	0.000	2.429	3.099	4.000	24.2%	< 30	60.7%	77.5%	50 - 150	
Acetamiprid	0.000	0.364	0.373	0.400	2.4%	< 30	91.0%	93.2%	50 - 150	
Aldicarb	0.000	0.760	0.756	0.800	0.5%	< 30	95.0%	94.6%	50 - 150	
Azoxystrobin	0.000	0.360	0.342	0.400	5.4%	< 30	90.1%	85.4%	50 - 150	
Bifenazate	0.000	0.361	0.384	0.400	6.2%	< 30	90.2%	95.9%	50 - 150	
Bifenthrin	0.000	0.219	0.278	0.400	23.9%	< 30	54.6%	69.4%	50 - 150	
Boscalid	0.000	0.742	0.869	0.800	15.7%	< 30	92.8%	108.6%	50 - 150	
Carbaryl	0.000	0.354	0.365	0.400	2.9%	< 30	88.5%	91.2%	50 - 150	
Carbofuran	0.000	0.363	0.375	0.400	3.3%	< 30	90.8%	93.8%	50 - 150	
Chlorantraniliprole	0.000	0.365	0.374	0.400	2.4%	< 30	91.2%	93.4%	50 - 150	
Chlorfenapyr	0.000	1.575	1.602	2.000	1.7%	< 30	78.7%	80.1%	50 - 150	
Chlorpyrifos	0.000	0.339	0.366	0.400	7.6%	< 30	84.8%	91.5%	50 - 150	
Clofentazine	0.000	0.419	0.483	0.400	14.3%	< 30	104.7%	120.8%	50 - 150	
Cyfluthrin	0.000	1.331	1.382	2.000	3.8%	< 30	66.5%	69.1%	30 - 150	
Cypermethrin	0.000	1.246	1.345	2.000	7.6%	< 30	62.3%	67.2%	50 - 150	
Daminozide	0.000	3.429	2.241	2.000	41.9%	< 30	171.5%	112.1%	30 - 150	R, Q
Diazinon	0.000	0.368	0.396	0.400	7.2%	< 30	92.1%	99.0%	50 - 150	
Dichlorvos	0.000	1.741	1.734	2.000	0.4%	< 30	87.1%	86.7%	50 - 150	
Dimethoate	0.000	0.337	0.371	0.400	9.7%	< 30	84.1%	92.8%	50 - 150	
Ethoprophos	0.000	0.346	0.361	0.400	4.3%	< 30	86.4%	90.2%	50 - 150	
Etofenprox	0.000	0.035	0.035	0.800	0.9%	< 30	4.4%	4.3%	50 - 150	Q
Etoxazole	0.000	0.295	0.315	0.400	6.4%	< 30	73.8%	78.7%	50 - 150	
Fenoxycarb	0.000	0.368	0.385	0.400	4.6%	< 30	91.9%	96.2%	50 - 150	
Fenpyroximate	0.000	0.598	0.639	0.800	6.6%	< 30	74.8%	79.9%	50 - 150	
Fipronil	0.000	0.834	0.897	0.800	7.3%	< 30	104.3%	112.2%	50 - 150	
Fonicamid	0.000	0.973	1.012	1.000	4.0%	< 30	97.3%	101.2%	50 - 150	
Fludioxonil	0.000	0.751	0.730	0.800	2.8%	< 30	93.8%	91.3%	50 - 150	
Hexythiazox	0.000	0.863	0.931	1.000	7.6%	< 30	86.3%	93.1%	50 - 150	
Imazalil	0.000	0.344	0.374	0.400	8.4%	< 30	85.9%	93.4%	50 - 150	
Imidacloprid	0.000	0.678	0.715	0.800	5.4%	< 30	84.7%	89.4%	50 - 150	
Kresoxim-methyl	0.000	0.741	0.720	0.800	2.9%	< 30	92.6%	90.0%	50 - 150	
Malathion	0.000	0.386	0.375	0.400	2.8%	< 30	96.5%	93.8%	50 - 150	
Metaxalyl	0.000	0.378	0.378	0.400	0.1%	< 30	94.5%	94.6%	50 - 150	
Methiocarb	0.000	0.378	0.384	0.400	1.4%	< 30	94.6%	95.9%	50 - 150	
Methomyl	0.000	0.648	0.799	0.800	20.8%	< 30	81.1%	99.9%	50 - 150	
MGK-264	0.000	0.388	0.414	0.400	6.6%	< 30	96.9%	103.5%	50 - 150	
Myclobutanil	0.000	0.351	0.352	0.400	0.4%	< 30	87.7%	88.1%	50 - 150	
Naled	0.000	0.902	0.908	1.000	0.7%	< 30	90.2%	90.8%	50 - 150	
Oxamyl	0.000	1.515	1.760	2.000	15.0%	< 30	75.7%	88.0%	50 - 150	
Pacllobutrazole	0.000	0.718	0.738	0.800	2.8%	< 30	89.8%	92.3%	50 - 150	
Parathion-Methyl	0.067	0.386	0.401	0.400	4.5%	< 30	79.9%	83.6%	30 - 150	
Permethrin	0.000	0.237	0.259	0.400	8.8%	< 30	59.2%	64.6%	50 - 150	
Phosmet	0.000	0.375	0.376	0.400	0.1%	< 30	93.8%	93.9%	50 - 150	
Piperonyl butoxide	0.000	1.534	1.787	2.000	15.2%	< 30	76.7%	89.3%	50 - 150	
Prallethrin	0.000	0.409	0.413	0.400	0.8%	< 30	102.4%	103.2%	50 - 150	
Propiconazole	0.000	0.676	0.731	0.800	7.9%	< 30	84.5%	91.4%	50 - 150	
Propoxur	0.000	0.356	0.364	0.400	2.3%	< 30	89.0%	91.0%	50 - 150	
Pyrethrin (Summe)	0.033	0.702	0.728	0.488	3.8%	< 30	137.1%	142.4%	50 - 150	
Pyridaben	0.000	0.220	0.247	0.400	11.5%	< 30	55.1%	61.9%	50 - 150	
Spirosad	0.000	0.291	0.319	0.388	9.3%	< 30	74.9%	82.2%	50 - 150	
Spiromesifen	0.000	0.312	0.325	0.400	4.0%	< 30	78.1%	81.2%	50 - 150	
Spirotetramat	0.000	0.384	0.398	0.400	3.6%	< 30	96.0%	99.5%	50 - 150	
Spiroxamine	0.000	0.714	0.787	0.800	9.8%	< 30	89.2%	98.4%	50 - 150	
Tebuconazole	0.000	0.703	0.755	0.800	7.1%	< 30	87.8%	94.3%	50 - 150	
Thiacloprid	0.000	0.370	0.382	0.400	3.3%	< 30	92.5%	95.5%	50 - 150	
Thiamethoxam	0.000	0.349	0.383	0.400	9.3%	< 30	87.2%	95.7%	50 - 150	
Trifloxystrobin	0.000	0.309	0.341	0.400	10.0%	< 30	77.2%	85.3%	50 - 150	

Test results relate only to the parameters tested and to the samples as received by the laboratory. Test results meet all requirements of NELAP and the Columbia Laboratories quality assurance plan unless otherwise noted. This report shall not be reproduced, except in full, without the written consent of this laboratory. Samples will be retained for a maximum of 30 days from the receipt date unless prior arrangements have been made.

Testing in accordance with: OAR 333-007-0400 OAR 333-007-0410 OAR 333-007-0430



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Laboratory Quality Control Results

Residual Solvents				Batch ID: 2309154					
Method Blank				Laboratory Control Sample					
Analyte	Result	LOQ	Notes	Result	Spike	Units	% Rec	Limits	Notes
Propane	ND	< 200		626	584	µg/g	107.2	60 - 120	
Isobutane	ND	< 200		837	767	µg/g	109.1	60 - 120	
Butane	ND	< 200		815	782	µg/g	104.2	60 - 120	
2,2-Dimethylpropane	ND	< 200		1030	939	µg/g	109.7	60 - 120	
Methanol	ND	< 200		1700	1640	µg/g	103.7	60 - 120	
Ethylene Oxide	ND	< 30		70.2	57.1	µg/g	122.9	60 - 120	
2-Methylbutane	ND	< 200		1540	1600	µg/g	96.3	60 - 120	
Pentane	ND	< 200		1560	1620	µg/g	96.3	60 - 120	
Ethanol	ND	< 200		1730	1610	µg/g	107.5	70 - 130	
Ethyl Ether	ND	< 200		1590	1610	µg/g	98.8	60 - 120	
2,2-Dimethylbutane	ND	< 30		167	168	µg/g	99.4	60 - 120	
Acetone	ND	< 200		1620	1620	µg/g	100.0	60 - 120	
2-Propanol	ND	< 200		1720	1600	µg/g	107.5	60 - 120	
Ethyl Formate	ND	< 500		1530	1600	µg/g	95.6	70 - 130	
Acetonitrile	ND	< 100		474	484	µg/g	97.9	60 - 120	
Methyl Acetate	ND	< 500		1630	1610	µg/g	101.2	70 - 130	
2,3-Dimethylbutane	ND	< 30		152	162	µg/g	93.8	60 - 120	
Dichloromethane	ND	< 60		474	483	µg/g	98.1	60 - 120	
2-Methylpentane	ND	< 30		176	174	µg/g	101.1	60 - 120	
MTBE	ND	< 500		1600	1610	µg/g	99.4	70 - 130	
3-Methylpentane	ND	< 30		171	168	µg/g	101.8	60 - 120	
Hexane	ND	< 30		160	168	µg/g	95.2	60 - 120	
1-Propanol	ND	< 500		1750	1600	µg/g	109.4	70 - 130	
Methylethylketone	ND	< 500		1620	1620	µg/g	100.0	70 - 130	
Ethyl acetate	ND	< 200		1600	1600	µg/g	100.0	60 - 120	
2-Butanol	ND	< 200		1710	1600	µg/g	106.9	60 - 120	
Tetrahydrofuran	ND	< 100		496	514	µg/g	96.5	60 - 120	
Cyclohexane	ND	< 200		1550	1600	µg/g	96.9	60 - 120	
2-methyl-1-propanol	ND	< 500		1830	1610	µg/g	113.7	70 - 130	
Benzene	ND	< 1		4.07	5.12	µg/g	79.5	60 - 120	
Isopropyl Acetate	ND	< 200		1600	1620	µg/g	98.8	60 - 120	
Heptane	ND	< 200		1550	1610	µg/g	96.3	60 - 120	
1-Butanol	ND	< 500		1810	1600	µg/g	113.1	70 - 130	
Propyl Acetate	ND	< 500		1580	1600	µg/g	98.8	70 - 130	
1,4-Dioxane	ND	< 100		460	493	µg/g	93.3	60 - 120	
2-Ethoxyethanol	ND	< 30		165	163	µg/g	101.2	60 - 120	
Methylisobutylketone	ND	< 500		1600	1600	µg/g	100.0	70 - 130	
3-Methyl-1-butanol	ND	< 500		1770	1610	µg/g	109.9	70 - 130	
Ethylene Glycol	ND	< 200		271	483	µg/g	56.1	60 - 120	Q6
Toluene	ND	< 100		452	493	µg/g	91.7	60 - 120	
Isobutyl Acetate	ND	< 500		1560	1600	µg/g	97.5	70 - 130	
1-Pentanol	ND	< 500		1860	1600	µg/g	116.3	70 - 130	
Butyl Acetate	ND	< 500		1530	1600	µg/g	95.6	70 - 130	
Ethylbenzene	ND	< 200		876	969	µg/g	90.4	60 - 120	
m,p-Xylene	ND	< 200		865	968	µg/g	89.4	60 - 120	
o-Xylene	ND	< 200		872	976	µg/g	89.3	60 - 120	
Cumene	ND	< 30		141	162	µg/g	87.0	60 - 120	
Anisole	ND	< 500		1390	1610	µg/g	86.3	70 - 130	
DMSO	ND	< 500		1460	1610	µg/g	90.7	70 - 130	
1,2-dimethoxyethane	ND	< 50		158	164	µg/g	96.3	70 - 130	
Triethylamine	ND	< 500		1410	1600	µg/g	88.1	70 - 130	
N,N-dimethylformamide	ND	< 150		463	484	µg/g	95.7	70 - 130	
N,N-dimethylacetamide	ND	< 150		448	489	µg/g	91.6	70 - 130	
Pyridine	ND	< 50		121	172	µg/g	70.3	70 - 130	
Sulfolane	ND	< 50		104	163	µg/g	63.8	70 - 130	Q6
1,2-Dichloroethane	ND	< 1		1.02	1	µg/g	102.0	70 - 130	
Chloroform	ND	< 1		1.08	1	µg/g	108.0	70 - 130	
Trichloroethylene	ND	< 1		1.09	1	µg/g	109.0	70 - 130	
1,1-Dichloroethane	ND	< 1		1.08	1	µg/g	108.0	70 - 130	



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QC - Sample Duplicate		Sample ID: 23-008095-0001						
Analyte	Result	Org. Result	LOQ	Units	RPD	Limits	Accept/Fail	Notes
Propane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Isobutane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Butane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2,2-Dimethylpropane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Methanol	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Ethylene Oxide	ND	ND	30	µg/g	0.0	< 20	Acceptable	
2-Methylbutane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Pentane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Ethanol	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Ethyl Ether	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2,2-Dimethylbutane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
Acetone	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2-Propanol	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Ethyl Formate	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Acetonitrile	ND	ND	100	µg/g	0.0	< 20	Acceptable	
Methyl Acetate	ND	ND	500	µg/g	0.0	< 20	Acceptable	
2,3-Dimethylbutane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
Dichloromethane	ND	ND	60	µg/g	0.0	< 20	Acceptable	
2-Methylpentane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
MTBE	ND	ND	500	µg/g	0.0	< 20	Acceptable	
3-Methylpentane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
Hexane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
1-Propanol	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Methyl ethyl ketone	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Ethyl acetate	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2-Butanol	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Tetrahydrofuran	ND	ND	100	µg/g	0.0	< 20	Acceptable	
Cyclohexane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2-methyl-1-propanol	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Benzene	ND	ND	1	µg/g	0.0	< 20	Acceptable	
Isopropyl Acetate	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Heptane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
1-Butanol	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Propyl Acetate	ND	ND	500	µg/g	0.0	< 20	Acceptable	
1,4-Dioxane	ND	ND	100	µg/g	0.0	< 20	Acceptable	
2-Ethoxyethanol	ND	ND	30	µg/g	0.0	< 20	Acceptable	
Methylisobutylketone	ND	ND	500	µg/g	0.0	< 20	Acceptable	
3-Methyl-1-butanol	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Ethylene Glycol	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Toluene	ND	ND	100	µg/g	0.0	< 20	Acceptable	
Isobutyl Acetate	ND	ND	500	µg/g	0.0	< 20	Acceptable	
1-Pentanol	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Butyl Acetate	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Ethylbenzene	ND	ND	200	µg/g	0.0	< 20	Acceptable	
m,p-Xylene	ND	ND	200	µg/g	0.0	< 20	Acceptable	
o-Xylene	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Cumene	ND	ND	30	µg/g	0.0	< 20	Acceptable	
Anisole	ND	ND	500	µg/g	0.0	< 20	Acceptable	
DMSO	ND	ND	500	µg/g	0.0	< 20	Acceptable	
1,2-dimethoxyethane	ND	ND	50	µg/g	0.0	< 20	Acceptable	
Triethylamine	ND	ND	500	µg/g	0.0	< 20	Acceptable	
N,N-dimethylformamide	ND	ND	150	µg/g	0.0	< 20	Acceptable	
N,N-dimethylacetamide	ND	ND	150	µg/g	0.0	< 20	Acceptable	
Pyridine	ND	ND	50	µg/g	0.0	< 20	Acceptable	
Sulfolane	ND	ND	50	µg/g	0.0	< 20	Acceptable	
1,2-Dichloroethane	ND	ND	1	µg/g	0.0	< 20	Acceptable	
Chloroform	ND	ND	1	µg/g	0.0	< 20	Acceptable	
Trichloroethylene	ND	ND	1	µg/g	0.0	< 20	Acceptable	
1,1-Dichloroethane	ND	ND	1	µg/g	0.0	< 20	Acceptable	

Abbreviations

ND - None Detected at or above MRL
 RPD - Relative Percent Difference
 LOQ - Limit of Quantitation

Units of Measure:

µg/g- Microgram per gram or ppm



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Explanation of QC Flag Comments:

Code	Explanation
Q	Matrix interferences affecting spike or surrogate recoveries.
Q1	Quality control result biased high. Only non-detect samples reported.
Q2	Quality control outside QC limits. Data considered estimate.
Q3	Sample concentration greater than four times the amount spiked.
Q4	Non-homogenous sample matrix, affecting RPD result and/or % recoveries.
Q5	Spike results above calibration curve.
Q6	Quality control outside QC limits. Data acceptable based on remaining QC.
R	Relative percent difference (RPD) outside control limit.
R1	RPD non-calculable, as sample or duplicate results are less than five times the LOQ.
R2	Sample replicates RPD non-calculable, as only one replicate is within the analytical range.
LOQ1	Quantitation level raised due to low sample volume and/or dilution.
LOQ2	Quantitation level raised due to matrix interference.
B	Analyte detected in method blank, but not in associated samples.
B1	The sample concentration is greater than 5 times the blank concentration.
B2	The sample concentration is less than 5 times the blank concentration.