CBD Topical Product Guarantee

Product Name	**CBD Lotion**
Product Category	Topicals/Cosmetics (Not for consumption)
Instructions for use/Preparation	Apply a small amount to the affected area. Use as needed throughout the day. Store in a cool dry place. Do not take internally. Cannabidiol use while pregnant or breastfeeding may be harmful.
CBD Source	CBD sourced from hemp grown under federally authorized state pilot program (e.g. Kentucky, Oregon, or Colorado's R&D program) or approved hemp program.
NOTE: This product is not intended to diagnose, treat, cure or prevent any disease	
WARNING: The safety of this product has not been determined.	
Batch Information	
Batch ID Number	20296
Batch Size	3200 pounds
Units Produced per SKU	Item 54050 (6 oz): 6500 units Item 54055 (1 oz): 5600 units
Manufacture date	10/22/2020
Expiration date	10/22/2022

Approved by Allison Ballard / Quality Assurance Manager

10/25/2020
Date

Hemp Quality Assurance Testing

CERTIFICATE OF ANALYSIS

DATE ISSUED 10/29/2020

SAMPLE NAME: CBD Lotion 20296_#46

Infused, Topical

CULTIVATOR / MANUFACTURER

Business Name:
License Number:
Address:

DISTRIBUTOR

Business Name: Shikai Products
License Number:
Address:

SAMPLE DETAIL

Batch Number: 20296
Sample ID: 201026N031

Date Collected: 10/26/2020
Date Received: 10/27/2020
Batch Size:
Sample Size: 1 units
Unit Mass:
Serving Size:

Scan QR code to verify authenticity of results.

CANNABINOID ANALYSIS - SUMMARY

Total THC: Not Detected

Total CBD: 4.824 mg/g

Sum of Cannabinoids: 4.839 mg/g

Total Cannabinoids: 4.839 mg/g

Total THC/CBD is calculated using the following formulas to take into account the loss of a carboxyl group during the decarboxylation step:
Total THC = Δ9THC + (THCa (0.877))
Total CBD = CBD + (CBDa (0.877))
Sum of Cannabinoids = Δ9THC + THCa + CBD + CBDa + CBG + CBGa + THCV + THCVa + CBC + CBCa + CBDV + CBDVa + Δ8THC + CBL + CBN
Total Cannabinoids = (Δ9THC+0.877*THCa) + (CBD+0.877*CBDa) + (CBG+0.877*CBGa) + (THCV+0.877*THCVa) + (CBC+0.877*CBCa) + (CBDV+0.877*CBDVa) + Δ8THC + CBL + CBN

Moisture: NT
Density: NT
Viscosity: NT

SAFETY ANALYSIS - SUMMARY

Pesticides: PASS
Heavy Metals: PASS
Foreign Material: NT
Mycotoxins: NT
Microbial Impurities (PCR): NT
Water Activity: NT
Residual Solvents: PASS
Microbial Impurities (Plating): ND
Vitamin E Acetate: NT

For quality assurance purposes. Not a Pre-Harvest Hemp Lab Test Report. These results relate only to the sample included on this report. This report shall not be reproduced, except in full, without written approval of the laboratory.

Sample Certification: California Code of Regulations Title 16 Effect Date January 16, 2019. Authority: Section 26013, Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

Decision Rule: Statements of conformity (e.g. Pass/Fail) to specifications are made in this report without taking measurement uncertainty into account. Where statements of conformity are made in this report, the following decision rules are applied: PASS – Results within limits/specifications, FAIL – Results exceed limits/specifications.

References: limit of detection (LOD), limit of quantification (LOQ), not detected (ND), not tested (NT) too numerous to count >250 cfu/plate (TNTC), colony-forming unit (cfu)

LQC verified by: Randi Vuong
Date: 10/29/2020

Approved by: Josh Wurzer, President
Date: 10/29/2020

Cannabinoid Analysis

Tested by high-performance liquid chromatography with diode-array detection (HPLC-DAD).

Method: QSP 1157 - Analysis of Cannabinoids by HPLC-DAD

TOTAL THC: Not Detected
Total THC (Δ9THC+0.877*THCa)

TOTAL CBD: 4.824 mg/g
Total CBD (CBD+0.877*CBDa)

TOTAL CANNABINOIDS: 4.839 mg/g
Total Cannabinoids (Total THC) + (Total CBD) + (Total CBG) + (Total THCV) + (Total CBC) + (Total CBDV) + Δ8THC + CBL + CBN

TOTAL CBG: ND
Total CBG (CBG+0.877*CBGa)

TOTAL THCV: ND
Total THCV (THCV+0.877*THCVa)

TOTAL CBC: ND
Total CBC (CBC+0.877*CBCa)

TOTAL CBDV: 0.015 mg/g
Total CBDV (CBDV+0.877*CBDVa)

CANNABINOID TEST RESULTS - 10/28/2020

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
CBD	*0.004 / 0.011*	*±0.2311*	4.824	0.4824
CBDV	*0.002 / 0.007*	*±0.0008*	0.015	0.0015
Δ9THC	*0.002 / 0.005*	*N/A*	ND	ND
Δ8THC	*0.01 / 0.02*	*N/A*	ND	ND
THCa	*0.001 / 0.002*	*N/A*	ND	ND
THCV	*0.002 / 0.008*	*N/A*	ND	ND
THCVa	*0.002 / 0.005*	*N/A*	ND	ND
CBDa	*0.001 / 0.003*	*N/A*	ND	ND
CBDVa	*0.001 / 0.003*	*N/A*	ND	ND
CBG	*0.002 / 0.005*	*N/A*	ND	ND
CBGa	*0.002 / 0.006*	*N/A*	ND	ND
CBL	*0.003 / 0.008*	*N/A*	ND	ND
CBN	*0.001 / 0.004*	*N/A*	ND	ND
CBC	*0.003 / 0.010*	*N/A*	ND	ND
CBCa	*0.001 / 0.004*	*N/A*	ND	ND
SUM OF CANNABINOIDS			4.839 mg/g	0.4839%

MOISTURE TEST RESULT	DENSITY TEST RESULT	VISCOSITY TEST RESULT
Not Tested	Not Tested	Not Tested

Pesticide Analysis

CATEGORY 1 AND 2 PESTICIDES

Pesticide and plant growth regulator analysis utilizing high-performance liquid chromatography-mass spectrometry (HPLC-MS) or gas chromatography-mass spectrometry (GC-MS). *GC-MS utilized where indicated.

Method: QSP 1212 - Analysis of Pesticides and Mycotoxins by LC-MS or QSP 1213 - Analysis of Pesticides by GC-MS

CATEGORY 1 PESTICIDE TEST RESULTS - 10/28/2020 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Aldicarb				NT	
Carbofuran				NT	
Chlordane*				NT	
Chlorfenapyr*				NT	
Chlorpyrifos	*0.02 / 0.06*	*≥ LOD*	*N/A*	**ND**	**PASS**
Coumaphos				NT	
Daminozide				NT	
DDVP (Dichlorvos)				NT	
Dimethoate				NT	
Ethoprop(hos)				NT	
Etofenprox				NT	
Fenoxycarb				NT	
Fipronil				NT	
Imazalil				NT	
Methiocarb				NT	
Methyl parathion				NT	
Mevinphos				NT	
Paclobutrazol				NT	
Propoxur				NT	
Spiroxamine				NT	
Thiacloprid				NT	

CATEGORY 2 PESTICIDE TEST RESULTS - 10/28/2020 PASS

Abamectin	*0.03 / 0.10*	*0.3*	*N/A*	**ND**	**PASS**
Acephate				NT	
Acequinocyl				NT	
Acetamiprid				NT	
Azoxystrobin	*0.01 / 0.04*	*40*	*N/A*	**ND**	**PASS**
Bifenazate	*0.01 / 0.02*	*5*	*N/A*	**ND**	**PASS**
Bifenthrin	*0.01 / 0.02*	*0.5*	*N/A*	**ND**	**PASS**
Boscalid	*0.02 / 0.06*	*10*	*N/A*	**ND**	**PASS**
Captan				NT	
Carbaryl				NT	
Chlorantraniliprole				NT	

Continued on next page

Pesticide Analysis *Continued*

CATEGORY 1 AND 2 PESTICIDES

Pesticide and plant growth regulator analysis utilizing high-performance liquid chromatography-mass spectrometry (HPLC-MS) or gas chromatography-mass spectrometry (GC-MS). *GC-MS utilized where indicated.

Method: QSP 1212 - Analysis of Pesticides and Mycotoxins by LC-MS or QSP 1213 - Analysis of Pesticides by GC-MS

CATEGORY 2 PESTICIDE TEST RESULTS - 10/28/2020 *continued* PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Clofentezine				NT	
Cyfluthrin				NT	
Cypermethrin	*0.1 / 0.3*	*1*	*N/A*	**ND**	**PASS**
Diazinon				NT	
Dimethomorph				NT	
Etoxazole	*0.010 / 0.028*	*1.5*	*N/A*	**ND**	**PASS**
Fenhexamid				NT	
Fenpyroximate				NT	
Flonicamid				NT	
Fludioxonil				NT	
Hexythiazox	*0.01 / 0.04*	*2*	*N/A*	**ND**	**PASS**
Imidacloprid	*0.01 / 0.04*	*3*	*N/A*	**ND**	**PASS**
Kresoxim-methyl				NT	
Malathion	*0.02 / 0.05*	*5*	*N/A*	**ND**	**PASS**
Metalaxyl				NT	
Methomyl				NT	
Myclobutanil	*0.03 / 0.1*	*9*	*N/A*	**ND**	**PASS**
Naled				NT	
Oxamyl				NT	
Pentachloronitrobenzene*				NT	
Permethrin	*0.03 / 0.09*	*20*	*N/A*	**ND**	**PASS**
Phosmet				NT	
Piperonylbutoxide	*0.003 / 0.009*	*8*	*N/A*	**ND**	**PASS**
Prallethrin				NT	
Propiconazole	*0.01 / 0.03*	*20*	*N/A*	**ND**	**PASS**
Pyrethrins				NT	
Pyridaben				NT	
Spinetoram				NT	
Spinosad				NT	
Spiromesifen	*0.02 / 0.05*	*12*	*N/A*	**ND**	**PASS**
Spirotetramat				NT	
Tebuconazole	*0.02 / 0.07*	*2*	*N/A*	**ND**	**PASS**
Thiamethoxam				NT	
Trifloxystrobin	*0.01 / 0.03*	*30*	*N/A*	**ND**	**PASS**

Residual Solvents Analysis

CATEGORY 1 AND 2 RESIDUAL SOLVENTS
Residual Solvent analysis utilizing gas chromatography-mass spectrometry (GC-MS).

Method: QSP 1204 - Analysis of Residual Solvents by GC-MS

CATEGORY 1 RESIDUAL SOLVENTS TEST RESULTS - 10/28/2020 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
1,2-Dichloroethane	0.05 / 0.1	1	N/A	ND	PASS
Benzene	0.03 / 0.09	1	N/A	ND	PASS
Chloroform	0.1 / 0.2	1	N/A	ND	PASS
Ethylene Oxide	0.1 / 0.4	1	N/A	ND	PASS
Methylene chloride	0.3 / 0.9	1	N/A	ND	PASS
Trichloroethylene	0.1 / 0.3	1	N/A	ND	PASS

CATEGORY 2 RESIDUAL SOLVENTS TEST RESULTS - 10/28/2020 PASS

Acetone	20 / 50	5000	N/A	ND	PASS
Acetonitrile	2 / 7	410	N/A	ND	PASS
Butane	10 / 50	5000	N/A	ND	PASS
Ethanol	20 / 50		N/A	ND	
Ethyl acetate	20 / 60	5000	N/A	ND	PASS
Ethyl ether	20 / 50	5000	N/A	ND	PASS
Heptane	20 / 60	5000	N/A	ND	PASS
Hexane	2 / 5	290	N/A	ND	PASS
Isopropyl Alcohol	10 / 40		N/A	ND	
Methanol	50 / 200	3000	N/A	ND	PASS
Pentane	20 / 50	5000	N/A	ND	PASS
Propane	10 / 20	5000	N/A	ND	PASS
Toluene	7 / 21	890	N/A	ND	PASS
Total Xylenes	50 / 160	2170	N/A	ND	PASS

Heavy Metals Analysis

Heavy metal analysis utilizing inductively coupled plasma-mass spectrometry (ICP-MS).

Method: QSP 1160 - Analysis of Heavy Metals by ICP-MS

HEAVY METALS TEST RESULTS - 10/27/2020 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Cadmium	0.02 / 0.05	0.5	N/A	ND	PASS
Lead	0.04 / 0.1	0.5	N/A	ND	PASS
Arsenic	0.02 / 0.1	1.5	N/A	ND	PASS
Mercury	0.002 / 0.01	3	N/A	ND	PASS

Microbial Impurities Analysis

PCR AND PLATING

Analysis conducted by polymerase chain reaction (PCR) and fluorescence detection of microbial impurities.

Method: QSP 1221 - Analysis of Microbial Impurities

MICROBIAL IMPURITIES TEST RESULTS (PCR)

COMPOUND	ACTION LIMIT	RESULT	RESULT
Shiga toxin-producing *Escherichia coli*		NT	
Salmonella spp.		NT	
Aspergillus fumigatus		NT	
Aspergillus flavus		NT	
Aspergillus niger		NT	
Aspergillus terreus		NT	

Analysis conducted by 3M™ Petrifilm™ and plate counts of microbial impurities.

Method: QSP 6794 - Plating with 3M™ Petrifilm™

MICROBIAL IMPURITIES TEST RESULTS (PLATING) - 10/29/2020 ND

COMPOUND	RESULT (cfu/g)
Aerobic Plate Count	ND
Total Yeast and Mold	ND

CERTIFICATE OF ANALYSIS:

CRYSTALLINE CANNABIDIOL

GPP GenCanna® PRODUCTION PLATFORM

Product Name

CC – Crystalline Cannabidiol

Batch Number

190128FE

Manufacture Date

October 07, 2019

Expiration Date

October 2021

Botanical Source

Industrial hemp, grown and processed in Kentucky, USA in compliance with Section 7415 of the Farm Bill and applicable Kentucky State Law and State Department of Agriculture regulations.

Product Description

This product is hemp derived crystalline cannabidiol, isolated through CO_2 extraction and crystal precipitation.

Qualitative Analysis

OBSERVATION	METHOD	RESULT
Foreign Matter	Gross Visual	Absent
Color	Gross Visual	White to Pale Yellow
Molds & Mildews	Gross Visual	Absent
Smell	Olfactory	Odorless to Slight Terpenoid
Product Feel	Tactile	Fine Powder

Quantitative Analysis

Cannabinoid Analysis**

RESULT: PASS

IDENTIFICATION	METHOD	RESULT
Cannabinoid	**Liquid Chromatography**	**%wt/wt**
Cannabidivarin (CBDV)	Liquid Chromatography	0.36%
Cannabidiol (CBD)	Liquid Chromatography	103.08%
Cannabidiolic Acid (CBDA)	Liquid Chromatography	N/D
Cannabinol (CBN)	Liquid Chromatography	N/D
Δ-9-Tetrahydrocannabinol (Δ-9-THC)	Liquid Chromatography	N/D
Cannabichromene (CBC)	Liquid Chromatography	N/D
Tetrahydrocannabinolic Acid (THCA)	Liquid Chromatography	N/D
Cannabigerol Acid (CBGA)	Liquid Chromatography	N/D
Cannabigerol (CBG)	Liquid Chromatography	N/D
Δ-8-Tetrahydrocannabinol (Δ-8-THC)	Liquid Chromatography	N/D

***Denotes third party analysis. Source data available upon request.*
LOQ Limit of quantitation
N/D None detected above the limits of detection

PROVERDE LABORATORIES

Test Certificate

Certificate ID: **67281**
Client Sample ID: **190128FE**
Lot Number: **190128FE**
Matrix: **Isolates - CBD**

Received: **10/8/19**

Scan QR Code for authenticity

GenCanna

Authorization:	Signature:	Date:
Jon Podgorni, Lead Research Chemist	Jon Podgorni	10/23/2019

PJLA Testing
Accreditation
80585

The data contained within this report was collected in accordance with the requirements of ISO/IEC17025:2017. I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

CN: Cannabinoid Profile & Potency [WI-10-17 & WI-10-17-01]

Analyst: RAS *Test Date: 10/16/2019*

The client sample was analyzed for plant-based cannabinoids by Liquid Chromatography (LC). Due to the unique precision and accuracy demands of assay testing for highly purified materials, samples were prepared in class-A volumetric glassware and quantitated against a single point calibration function. Five replicate injections of cannabidiol (CBD) certified reference standard are averaged to derive the calibration function and verify injection precision less than 2% RSD. For components other than CBD, the relative response factor of the identified component is used for quantitation. Relative response factors are calculated from certified reference standards. Relative percent difference (RPD) of the Laboratory Duplicate for this sample preparation batch was less than 2%. Assay values exceeding 100.00% are scientifically valid and result from the unavoidable accumulation of uncertainty at every stage of sampling and analysis.

67281-CN

ID	Weight %	Concentration (mg/g)
D9-THC	ND	ND
THCV	ND	ND
CBD	103.08	1030.81
CBDV	0.36	3.58
CBG	ND	ND
CBC	ND	ND
CBN	ND	ND
THCA	ND	ND
CBDA	ND	ND
CBGA	ND	ND
D8-THC	ND	ND
exo-THC	ND	ND
Total	103.44	1034.39
Max THC	ND	ND
Max CBD	103.08	1030.81

Limit of Quantitation (LOQ) = 0.05 wt%

Max THC (and Max CBD) are calculated values for total cannabinoids after heating, assuming complete decarboxylation of the acid to the neutral form. It is calculated based on the weight loss of the acid group during decarboxylation: Max THC = (0.877 x THCA) + THC. This calculation does not include other cannabinoid isomers (eg. D8-THC and exo-THC). ND = None detected above the limits of detection (LOD), which is half of LOQ.

EA: Elemental Analysis [WI-10-13]

Analyst: JFD *Test Date: 10/17/2019*

This test method was performed in accordance with the requirements of ISO/IEC 17025. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

67281-EA

Symbol	Metal	Conc.[1] (µg/kg)	RL (µg/kg)	Limits[2] (µg/kg)	Status
Al	Aluminum	679	50	-	
As	Arsenic	ND	50	200	PASS
Cd	Cadmium	ND	50	200	PASS
Ca	Calcium	2,602	500	-	
Cr	Chromium	95	50	300	PASS
Co	Cobalt	ND	50	300	PASS
Cu	Copper	369	50	3,000	PASS
Fe	Iron	694	50	-	
Pb	Lead	ND	50	500	PASS
Mg	Magnesium	8,208	50	-	
Mn	Manganese	ND	50	-	
Hg	Mercury	ND	50	100	PASS
Mo	Molybdenum	ND	50	1,000	PASS
Ni	Nickel	ND	50	500	PASS
P	Phosphorus	6,237	500	-	
K	Potassium	ND	500	-	
Se	Selenium	ND	50	-	
Ag	Silver	ND	50	700	PASS
S	Sulfur	ND	500	-	
Sn	Tin	2,856	500	6,000	PASS
Zn	Zinc	444	50	-	

1) ND = None detected to the Method Detection Limit (MDL)
2) USP recommended maximum daily limits for inhalational drug product.

MB1: Microbiological Contaminants [WI-10-09]

Analyst: MM *Test Date: 10/9/2019*

This test method was performed in accordance with the requirements of ISO/IEC 17025. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

67281-MB1

Symbol	Analysis	Results	Units	Limits*	Status
AC	Total Aerobic Bacterial Count	<100	CFU/g	100,000 CFU/g	PASS
CC	Total Coliform Bacterial Count	<100	CFU/g	1,000 CFU/g	PASS
EB	Total Bile Tolerant Gram Negative Count	<100	CFU/g	1,000 CFU/g	PASS
YM	Total Yeast & Mold	<100	CFU/g	10,000 CFU/g	PASS

Note: All recorded Microbiological tests are within the established limits.

MB2: Pathogenic Bacterial Contaminants [WI-10-10]

Analyst: LabAdmin *Test Date: 10/10/2019*

This test method was performed in accordance with the requirements of ISO/IEC 17025. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

67281-MB2

Test ID	Analysis	Results	Units	Limits*	Status
67281-ECPT	E. coli (O157)	Negative	NA	Non Detected	PASS
67281-SPT	Salmonella	Negative	NA	Non Detected	PASS

Note: All recorded pathogenic bacteria tests passed.

MY: Mycotoxin Testing [WI-10-05]

Analyst: CJB *Test Date: 10/10/2019*

This test method was performed in accordance with the requirements of ISO/IEC 17025. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

67281-MY

Test ID	Date	Results	MDL	Limits	Status*
Total Aflatoxin	10/10/2019	< MDL	2 ppb	< 20 ppb	PASS
Total Ochratoxin	10/10/2019	< MDL	3 ppb	< 20 ppb	PASS

TP: Terpenes Profile [WI-10-27] *Analyst: CMA* *Test Date: 10/11/2019*

The client sample was analyzed by Head-Space Gas Chromatography (HS-GC). The collected data was compared to data collected for certified reference standards at known concentrations. All values are semiquantitative estimates based on recorded peak areas relative to terpene calibration data.

67281-TP

Compound	ppm	Terpene Profile
beta-myrcene		
isopulegol		
menthol		
cis-nerolidol		
trans-nerolidol		
gamma-terpinene		
alpha-bisabolol		
linalool		
beta-caryophyllene		
caryophyllene oxide		
guaiol		
sabinene		
alpha-humulene		
p-cymene		
	ppm 0.00	5.00 10.00

Compound	ppm	Terpene Profile
camphene		
L-fenchone		
beta-pinene		
eucalyptol		
alpha-terpinene		
delta-3-carene		
alpha-pinene		
D-limonene		
geraniol		
cis-beta-ocimene		
alpha-ocimene		
alpha-phellandrene		
terpinolene		
	0.00	5.00 10.00

Total Terpene: <0.1 wt%

VC: Analysis of Volatile Organic Compounds [WI-10-28] *Analyst: CMA* *Test Date: 10/10/2019*

The client sample was analyzed by Head-Space Gas Chromatography (HS-GC). The collected data was compared to data collected for certified reference standards at known concentrations.

67281-VC

Compound	CAS	Amount [1]	Limit [2]	RL	Status
Propane	74-98-6	ND	1,000 ppm	100	PASS
Isobutane	75-28-5	ND	1,000 ppm	100	PASS
Butane	106-97-8	ND	1,000 ppm	100	PASS
Methanol	67-56-1	ND	3,000 ppm	100	PASS
Pentane	109-66-0	ND	5,000 ppm	100	PASS
Ethanol	64-17-5	ND	5,000 ppm	100	*
Acetone	67-64-1	ND	5,000 ppm	100	PASS
Isopropanol	67-63-0	ND	5,000 ppm	100	PASS
Acetonitrile	75-05-8	ND	410 ppm	100	PASS
Hexane	110-54-3	ND	290 ppm	100	PASS
Heptane	142-82-5	ND	5,000 ppm	100	PASS

1) ND = Not detected at a level greater than the Reporting Limit (RL).
2) In ppm, based on USP recommended limits for residual solvents, adopted by the Massachusetts Department of Public Health for cannabis concentrates and extracts on 3/31/16. Butane/Propane limits are based on limits established for state of Colorado.
(*) For ethanol, as many formulations contain flavorings based on ethanol extracts of natural products, no status has been assigned.

END OF REPORT

PACIFIC AGRICULTURAL LABORATORY
A MATRIX SCIENCES COMPANY
21830 S.W. Alexander Ln. • Sherwood, OR 97140 • Ph 503.626.7943 • pacaglab.com

GenCanna Global
4274 Colby Rd.
Winchester, KY 40391

Report Number: P193122
Report Date: October 22, 2019
Client Project ID:

Client Sample ID: 190128FE
PAL Sample ID: P193122-03

Sample Date: 10/07/2019
Received Date: 10/08/2019
Extraction Date: 10/14/2019

Certificate of Analysis

Analysis Date	Analyte	Amount Detected	LOQ (mg/kg)	Notes	Analysis Date	Analyte	Amount Detected	LOQ (mg/kg)	Notes
JASBC 69(3):121-126, 2011 (GC-MS/MS)									
10/15/2019	a-BHC	ND	0.20		10/15/2019	Aldrin	ND	0.20	
10/15/2019	b-BHC	ND	0.20		10/15/2019	Benfluralin	ND	0.20	
10/15/2019	Bolstar	ND	0.20		10/15/2019	Bromopropylate	ND	0.20	
10/15/2019	Captan	ND	4.0		10/15/2019	Chlordane	ND	0.20	
10/15/2019	Chlorfenapyr	ND	0.20		10/15/2019	Chloroneb	ND	0.20	
10/15/2019	Chlorothalonil	ND	0.20		10/15/2019	Chlorpropham	ND	0.20	
10/15/2019	Chlorpyrifos	ND	0.20		10/15/2019	Chlorpyrifos-methyl	ND	0.20	
10/15/2019	cis-Nonachlor	ND	0.20		10/15/2019	Cyfluthrin	ND	1.0	
10/15/2019	Cypermethrin	ND	1.0		10/15/2019	Dacthal	ND	0.20	
10/15/2019	d-BHC	ND	0.20		10/15/2019	Deltamethrin	ND	1.0	
10/15/2019	Diazinon	ND	0.20		10/15/2019	Dichlobenil	ND	0.20	
10/15/2019	Dichlorofenthion	ND	0.20		10/15/2019	Dichlorvos	ND	0.20	
10/15/2019	Diclofop-methyl	ND	0.20		10/15/2019	Dicloran	ND	1.0	
10/15/2019	Dicofol	ND	0.20		10/15/2019	Diphenamid	ND	0.20	
10/15/2019	Dithiopyr	ND	0.20		10/15/2019	Esfenvalerate	ND	0.20	
10/15/2019	Ethalfluralin	ND	0.20		10/15/2019	Ethofumesate	ND	0.20	
10/15/2019	Ethoprophos	ND	0.20		10/15/2019	Ethoxyquin	ND	0.20	
10/15/2019	Etoxazole	ND	0.20		10/15/2019	Etridiazole	ND	0.20	
10/15/2019	Fenarimol	ND	0.20		10/15/2019	Fenvalerate	ND	0.20	
10/15/2019	Fipronil	ND	0.20		10/15/2019	Fludioxonil	ND	0.20	
10/15/2019	Flutolanil	ND	0.20		10/15/2019	g-BHC	ND	0.20	
10/15/2019	Heptachlor	ND	0.20		10/15/2019	Heptachlor epoxide	ND	0.20	
10/15/2019	Hexachlorobenzene	ND	0.20		10/15/2019	Kresoxim-methyl	ND	0.20	
10/15/2019	lambda-Cyhalothrin	ND	0.56		10/15/2019	Malathion	ND	0.20	
10/15/2019	Mefenoxam	ND	0.20		10/15/2019	Metolachlor	ND	0.20	
10/15/2019	MGK-264	ND	0.20		10/15/2019	Myclobutanil	ND	0.20	
10/15/2019	o-Phenylphenol	ND	0.40		10/15/2019	Oxadiazon	ND	0.20	
10/15/2019	Oxyfluorfen	ND	0.40		10/15/2019	p,p'-DDD	ND	0.20	
10/15/2019	p,p'-DDE	ND	0.20		10/15/2019	p,p'-DDT	ND	0.20	
10/15/2019	Paclobutrazol	ND	0.20		10/15/2019	Parathion-methyl	ND	0.20	
10/15/2019	Pendimethalin	ND	0.20		10/15/2019	Pentachlorophenyl methyl sulfide	ND	0.20	
10/15/2019	Permethrin	ND	0.40		10/15/2019	Pirimicarb	ND	0.20	
10/15/2019	Procymidone	ND	0.20		10/15/2019	Prodiamine	ND	0.40	
10/15/2019	Pronamide	ND	0.20		10/15/2019	Pyriproxyfen	ND	0.20	
10/15/2019	Quinoxyfen	ND	0.20		10/15/2019	Spirodiclofen	ND	0.20	
10/15/2019	Tetraconazole	ND	0.20		10/15/2019	trans-Nonachlor	ND	0.20	

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GenCanna Global
4274 Colby Rd.
Winchester, KY 40391

Report Number: P193122
Report Date: October 22, 2019
Client Project ID:

Client Sample ID: 190128FE
PAL Sample ID: P193122-03

Sample Date: 10/07/2019
Received Date: 10/08/2019
Extraction Date: 10/14/2019

Certificate of Analysis
(Continued)

Analysis Date	Analyte	Amount Detected	LOQ (mg/kg)	Notes
JASBC 69(3):121-126, 2011 (GC-MS/MS) (Continued)				
10/15/2019	Trifluralin	ND	0.20	
JASBC 69(3):121-126, 2011 (LC-MS/MS)				
10/15/2019	3-Hydroxycarbofuran	ND	0.20	
10/15/2019	Acephate	ND	0.80	
10/15/2019	Acetamiprid	ND	0.20	
10/15/2019	Aldicarb Sulfone	ND	0.20	
10/15/2019	Ametoctradin	ND	0.20	
10/15/2019	Azinphos-methyl	ND	0.40	
10/15/2019	Bendiocarb	ND	0.20	
10/15/2019	Bifenazate	ND	0.20	
10/15/2019	Boscalid	ND	0.20	
10/15/2019	Carbaryl	ND	0.20	
10/15/2019	Carbofuran	ND	0.20	
10/15/2019	Chlorantraniliprole	ND	0.20	
10/15/2019	Clofentezine	ND	0.20	
10/15/2019	Cyanazine	ND	0.20	
10/15/2019	Cyazofamid	ND	0.20	
10/15/2019	Cyflufenamid	ND	0.20	
10/15/2019	Cymoxanil	ND	0.20	
10/15/2019	DCPMU	ND	0.20	
10/15/2019	Diflubenzuron	ND	0.20	
10/15/2019	Dimethomorph	ND	0.20	
10/15/2019	Disulfoton sulfone	ND	0.20	
10/15/2019	d-Phenothrin	ND	0.50	
10/15/2019	Famphur	ND	0.20	
10/15/2019	Fenamiphos sulfone	ND	0.20	
10/15/2019	Fenazaquin	ND	0.20	
10/15/2019	Fenoxycarb	ND	0.20	
10/15/2019	Fenpyroximate	ND	0.20	
10/15/2019	Fluometuron	ND	0.20	
10/15/2019	Fluopyram	ND	0.20	
10/15/2019	Flupyradifurone	ND	0.20	
10/15/2019	Flutriafol	ND	0.20	
10/15/2019	Fluxapyroxad	ND	0.20	
10/15/2019	Hexazinone	ND	0.20	
10/15/2019	Imazalil	ND	0.20	
10/15/2019	Abamectin	ND	1.0	
10/15/2019	Acequinocyl-Hydroxy	ND	1.0	
10/15/2019	Aldicarb	ND	0.20	
10/15/2019	Aldicarb Sulfoxide	ND	0.20	
10/15/2019	Atrazine	ND	0.20	
10/15/2019	Azoxystrobin	ND	0.20	
10/15/2019	Bensulide	ND	0.20	
10/15/2019	Bifenthrin	ND	0.20	
10/15/2019	Bromacil	ND	0.20	
10/15/2019	Carbendazim	ND	0.20	
10/15/2019	Carfentrazone-ethyl	ND	0.20	
10/15/2019	Clethodim	ND	0.40	
10/15/2019	Clothianidin	ND	0.20	
10/15/2019	Cyantraniliprole	ND	0.20	
10/15/2019	Cycloate	ND	0.40	
10/15/2019	Cyflumetofen	ND	0.20	
10/15/2019	Daminozide	ND	1.0	
10/15/2019	Diazoxon	ND	0.20	
10/15/2019	Dimethoate	ND	0.20	
10/15/2019	Dinotefuran	ND	0.20	
10/15/2019	Diuron	ND	0.20	
10/15/2019	Etofenprox	ND	0.20	
10/15/2019	Fenamidone	ND	0.20	
10/15/2019	Fenamiphos sulfoxide	ND	0.20	
10/15/2019	Fenbuconazole	ND	0.20	
10/15/2019	Fenpropathrin	ND	0.20	
10/15/2019	Flonicamid	ND	1.0	
10/15/2019	Fluopicolide	ND	0.20	
10/15/2019	Fluoxastrobin	ND	0.20	
10/15/2019	Fluridone	ND	0.20	
10/15/2019	Fluvalinate	ND	0.20	
10/15/2019	Formetanate HCl	ND	0.20	
10/15/2019	Hexythiazox	ND	0.20	
10/15/2019	Imidacloprid	ND	0.20	

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Report Number: P193122
Report Date: October 22, 2019
Client Project ID:

Client Sample ID: 190128FE
PAL Sample ID: P193122-03

Sample Date: 10/07/2019
Received Date: 10/08/2019
Extraction Date: 10/14/2019

Certificate of Analysis
(Continued)

JASBC 69(3):121-126, 2011 (LC-MS/MS) (Continued)

Analysis Date	Analyte	Amount Detected	LOQ (mg/kg)	Notes
10/15/2019	Indaziflam	ND	0.20	
10/15/2019	Isoxaben	ND	0.20	
10/15/2019	Malaoxon	ND	0.20	
10/15/2019	Metconazole	ND	0.20	
10/15/2019	Methidathion	ND	0.20	
10/15/2019	Methomyl	ND	0.20	
10/15/2019	Metrafenone	ND	0.20	
10/15/2019	Norflurazon	ND	0.20	
10/15/2019	Omethoate	ND	0.20	
10/15/2019	Oxamyl	ND	0.20	
10/15/2019	Penthiopyrad	ND	0.20	
10/15/2019	Phorate Sulfoxide	ND	0.20	
10/15/2019	Phosmet	ND	0.20	
10/15/2019	Piperonyl Butoxide	ND	1.0	
10/15/2019	Prallethrin	ND	0.20	
10/15/2019	Prometryn	ND	0.20	
10/15/2019	Propargite	ND	0.20	
10/15/2019	Propoxur	ND	0.20	
10/15/2019	Pyraclostrobin	ND	0.20	
10/15/2019	Pyrethrin	ND	1.0	
10/15/2019	Pyrimethanil	ND	0.20	
10/15/2019	Sethoxydim	ND	0.40	
10/15/2019	Simazine	ND	0.20	
10/15/2019	Spinetoram	ND	0.20	
10/15/2019	Spiromesifen	ND	0.40	
10/15/2019	Spiroxamine	ND	0.20	
10/15/2019	Tebuconazole	ND	0.20	
10/15/2019	Tebuthiuron	ND	0.20	
10/15/2019	Thiabendazole	ND	0.20	
10/15/2019	Thiamethoxam	ND	0.20	
10/15/2019	Thiodicarb	ND	0.20	
10/15/2019	Triadimefon	ND	0.20	
10/15/2019	Trifloxystrobin	ND	0.20	
10/15/2019	Indoxacarb	ND	0.20	
10/15/2019	Linuron	ND	0.20	
10/15/2019	Mandipropamid	ND	0.20	
10/15/2019	Methamidophos	ND	0.80	
10/15/2019	Methiocarb	ND	0.20	
10/15/2019	Methoxyfenozide	ND	0.20	
10/15/2019	Mevinphos	ND	0.20	
10/15/2019	Novaluron	ND	0.20	
10/15/2019	Oxadixyl	ND	1.0	
10/15/2019	Oxydemeton-Methyl	ND	0.20	
10/15/2019	Phorate Sulfone	ND	1.0	
10/15/2019	Phosalone	ND	0.20	
10/15/2019	Phosphamidon	ND	0.20	
10/15/2019	Pirimiphos-methyl	ND	0.20	
10/15/2019	Prometon	ND	0.20	
10/15/2019	Propamocarb	ND	0.20	
10/15/2019	Propiconazole	ND	0.40	
10/15/2019	Pymetrozine	ND	0.20	
10/15/2019	Pyraflufen-ethyl	ND	0.20	
10/15/2019	Pyridaben	ND	0.20	
10/15/2019	Rotenone	ND	0.20	
10/15/2019	Siduron	ND	0.20	
10/15/2019	Simetryn	ND	0.20	
10/15/2019	Spinosad	ND	0.20	
10/15/2019	Spirotetramat	ND	0.20	
10/15/2019	Sulfoxaflor	ND	0.20	
10/15/2019	Tebufenozide	ND	0.20	
10/15/2019	Terbuthylazine	ND	0.20	
10/15/2019	Thiacloprid	ND	0.20	
10/15/2019	Thiobencarb	ND	0.20	
10/15/2019	Tolfenpyrad	ND	0.20	
10/15/2019	Triadimenol	ND	0.40	
10/15/2019	Triflumizole	ND	0.20	

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Notes and Definitions

Notes	Definition
LOQ	Limit of Quantitation
ND	Not Detected
*	Not included under current scope of accreditation

The results contained in this report relate only to the items tested.
The results reflect the condition of the samples as received by PAL.
Samples will be stored for a minimum of 60 days after the final report is issued, as described in our Quality Manual.
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Rick Jordan, Laboratory Manager