CERTIFICATE OF ANALYSIS

PRODUCT NAME:	Certified Organic CBD Salve
PRODUCT STRENGTH:	500 mg
FILL LOT NUMBER:	NA
SALVE BATCH:	21802-05
BEST BY DATE:	03/27/2023
HEMP EXTRACT LOT	**C0222-002**

Click on the links to view third-party reports

Physical Atttributes

Test	Method	Specification	Results
Color	SOP-100	Off-white, cream color	PASS
Odor	SOP-100	Neutral scent w/hint of hemp oil, sweet beeswax	PASS
Appearance	SOP-100	Firm textured salve in white roll-on container with cap	PASS
Primary Package Eval.	SOP-132	Container clean and free of filth. Container caps tight and shrink bands intact	PASS
Secondary Package Eval.	SOP-132	Labeling Compliance Checked, Cartons sturdy and clean. Sufficient cushion material exists. Box taped and secure.	PASS

Review of Third-Party Analysis

Panel	Method	Specification	Results*	Pass/Fail
Potency - Total CBD	SOP-111	500-650mg CBD LOQ**: 10 PPM† (0.001%)	**543.9 mg**	PASS
Potency - D9-THC	SOP-111	None Detected LOQ: 10 PPM (0.001%)	**ND**	PASS
Compliant Pesticide Panel	SOP-111	WIP-100008 : Product specification for Tinctures, Oregon Action limits apply	**ND**	PASS
Microbial - Stec E.Coli	SOP-111	Complies with USP 61/62	**Below LOQ**	PASS
Microbial - Salmonella	SOP-111	Complies with USP 61/62	**Below LOQ**	PASS
Microbial - Yeast and Mold	SOP-111	Complies with USP 61/62	**Below LOQ**	PASS
CA Compliant Heavy Metal Panel	SOP-111	Arsenic (As): ≤1.5 PPM Cadmium (Cd): ≤0.5 PPM Mercury (Hg): ≤1.0 PPM Lead (Pb): ≤0.5 PPM	**ND**	PASS

* *Level of Quantitation, † Parts Per Million

Quality Certified — Kei Horikawa — 04/07/2021

Kei Horikawa
Quality Control Manager

Date

Salve 1oz OS1OZ500

Joy Organics **Certificate of Analysis**

total cannabinoids
575 mg
per
ounce

Δ9-THC	THCa	total THC
0.0 mg	0.0 mg	0.0 mg

CBD	CBDa	total CBD
536.3 mg	8.7 mg	543.9 mg

Lot# 21802-05 WO 055680

This Product Has Been Tested and Complies with 7USC1639o(1) Definition of Hemp

ISO/IEC 17025:2017
ACCREDITED
Certificate #4961.01

Stillwater Laboratories

https://portal.a2la.org/scopepdf/4961-01.pdf

Sample Handling

test ID	**10299.1.**	sample wt	28.4 g
type	topical	order	**10299**
lab ID	**1DB23**	sample date	4/1/2021
unit	ounce	unit weight	**28.4 g**

Methods

	method	equipment
weights	MSP-7.3.1.3	AUX120.1
potency	MSP-7.5.1.5	LC-2030
terpenes	MSP-7.5.1.7	QP2020/HS20
pesticides	MSP-7.5.1.8	LC-8060
mycotoxins	MSP-7.5.1.8	LC-8060
microbial	MSP-7.5.1.1	AriaMx/Hardy
solvents	MSP-7.5.1.6	QP2020/HS20
metals	MSP-7.5.1.1	ICPMS2030

topical

Potency

per ounce			estimated error
tetrahydrocannabolic acid (THCa)	0%	0.0 mg	± 0.47 mg
Δ^9-tetrahydrocannabinol (Δ^9 THC)	0%	0.0 mg	± 0.47 mg
Δ^8-tetrahydrocannabinol (Δ^8 THC)	0%	0.0 mg	± 0.47 mg
tetrahydrocannabivarin (THCv)	0%	0.0 mg	± 0.47 mg
cannabidiolic acid (CBDa)	.03%	8.7 mg	± 0.78 mg
cannabidiol (CBD)	1.89%	536.3 mg	± 4.92 mg
cannabidivarin (CBDv)	0%	1.2 mg	± 0.52 mg
cannabigerolic acid (CBGa)	.01%	3.5 mg	± 0.61 mg
cannabigerol (CBG)	.09%	25.5 mg	± 1.17 mg
cannabinol (CBN)	0%	0.0 mg	± 0.47 mg
cannabichromene (CBC)	0%	0.0 mg	± 0.47 mg

Terpenes

%	estimated error	%	estimated error	%	estimated error

terpenes
not tested / not required

Solvents

	MT limit	1DB23	LOQ

Toxic Metals

	MT limit	1DB23	LOQ
arsenic	2 ppm	0.0 ppm	<10ppb
cadmium	4.1 ppm	0.0 ppm	<10ppb
lead	1.2 ppm	0.0 ppm	<10ppb
mercury	0.4 ppm	0.0 ppm	<10ppb

Comments

Pesticides (MT)

	MT limit	1DB23	LOQ
abamectin		0.00 ppm	<10ppb
acequinocyl		0.00 ppm	<10ppb
bifenazate		0.00 ppm	<10ppb
bifenthrin		0.00 ppm	<10ppb
chlormequat cl.		0.00 ppm	<10ppb
cyfluthrin		0.00 ppm	<80ppb
diaminozide		0.00 ppm	<10ppb
etoxazole		0.00 ppm	<10ppb
fenoxycarb		0.00 ppm	<10ppb
imazalil		0.00 ppm	<10ppb
imidacloprid		0.00 ppm	<10ppb
myclobutanil		0.00 ppm	<10ppb
paclobutrazol		0.00 ppm	<10ppb
pyrethrins		0.00 ppm	<10ppb
spinosad		0.00 ppm	<10ppb
spiromesifen		0.00 ppm	<10ppb
spirotetramat		0.00 ppm	<10ppb
trifloxystrobin		0.00 ppm	<10ppb

Microbial

	MT limit	1DB23	LOQ
E. coli	10 CFU	0 CFU	<10 CFU/g
Salmonella sp.	10 CFU	0 CFU	<10 CFU/g
molds	10000 CFU	0 CFU	<10k CFU/g
Aflatoxin B1,B2,G1,G2	20 ppb	0 ppb	<20 ppb
Ochratoxin A	20 ppb	0 ppb	<20 ppb

Pesticides (other)

	1DB23	LOQ
acephate	0.00 ppm	<10ppb
acetamiprid	0.00 ppm	<10ppb
aldicarb	0.00 ppm	<10ppb
azoxystrobin	0.00 ppm	<10ppb
boscalid	0.00 ppm	<10ppb
carbaryl	0.00 ppm	<10ppb
carbofuran	0.00 ppm	<10ppb
chloantraniliprole	0.00 ppm	<10ppb
chlorpyrifos	0.00 ppm	<10ppb
clofentezine	0.00 ppm	<10ppb
cypermethrin	0.00 ppm	<10ppb
diazinon	0.00 ppm	<10ppb
dichlorvos	0.00 ppm	<10ppb
dimethoate	0.00 ppm	<10ppb
etofenprox	0.00 ppm	<10ppb
fenpyroximate	0.00 ppm	<10ppb
fipronil	0.00 ppm	<10ppb
flonicamid	0.00 ppm	<10ppb
fludioxonil	0.00 ppm	<10ppb
hexythiazox	0.00 ppm	<10ppb
kresoxym-methyl	0.00 ppm	<10ppb
malathion	0.00 ppm	<10ppb
metalaxyl	0.00 ppm	<10ppb
methiocarb	0.00 ppm	<10ppb
methomyl	0.00 ppm	<10ppb
oxamyl	0.00 ppm	<10ppb
permethrins	0.00 ppm	<10ppb
phosmet	0.00 ppm	<10ppb
piperonyl butoxide	0.00 ppm	<10ppb
prallethrin	0.00 ppm	<10ppb
propiconazole	0.00 ppm	<10ppb
pyridaben	0.00 ppm	<10ppb
spiroxamine	0.00 ppm	<10ppb
tebuconazole	0.00 ppm	<10ppb
thiacloprid	0.00 ppm	<10ppb
thiamethoxam	0.00 ppm	<10ppb

• All testing was completed onsite at 6073 US93N, Olney MT •• Potency (cannabinoid concentration) is calcuated from the equation: [cannabioid] = $[\text{cannabinoid}]_{HPLC}$ x $\text{volume}_{dilution}/m_{dry}$. Terpene concentration is calcuated from the equation: [terpene] = $(\text{terpene mass})_{GCMS}$ / m_{dry}. ••• Decarboxyted cannabinoid concentration is calculated from the equation XXX_{total} = 0.877 x XXXa + XXX •••• Standards are used to calibrate the resulting data and estimate error using a standard estimate of error method; this is combined with error from weighing and dilution using the propagation of error formula $s_g^2 = \sum(\partial f/\partial i)^2 s_i^2$ where i is the contributor to error. The 95% confidence range is calculated from the equation: (concentration) ± t_{CL90} x s_g. Sampling error is not

Certified by:

Kyle Larson, MSc (Biology)
Deputy Director
6073 US93N, Olney MT 59927
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CO222-002

7USC1639 Certificate of Analysis

Socati

Stillwater Laboratories

certificate ID
1BU31

man. date 2/24/2021

total cannabinoids **85.36%**

THC total ND CBD total 80.02% terpenes 0.073%

order 9927
analysis date 2/24/2021 1:09:31 PM
test tag S1BXU
sample wgt 1.0 g

Inspection MSP-7.5.1.2

DESCRIPTION: Concentrate sample (1.00g) received in a client-labeled bottle, collected at dispensary/grow. 1 and sample tag S1BXU.

MSP-7.5.1.3

0.000

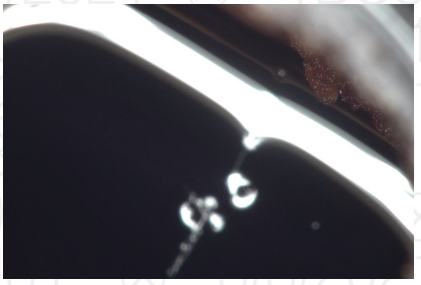
caryophyllene
humulene
terpinolene
ocimene
beta pinene
alpha pinene
limonene
myrcene
linalool

HERBAL

FLORAL

0.000

extract



Potency per MSP-7.5.1.4

		LOD	LOQ	error (95%CI k=2)
tetrahydrocannabolic acid (THCa)	ND	0.002	0.005	±0.005%
Δ9-tetrahydrocannabinol (Δ9 THC)	ND	0.001	0.004	±0.004%
Δ8-tetrahydrocannabinol (Δ8 THC)	ND	0.002	0.006	±0.006%
tetrahydrocannabivarin (THCv)	ND	0.002	0.005	±0.005%
cannabidiolic acid (CBDa)	ND	0.001	0.004	±0.004%
cannabidiol (CBD)	80.02%	0.002	0.005	±1.920%
cannabidivarin (CBDv)	0.06%	0.001	0.004	±0.006%
cannabigerolic acid (CBGa)	ND	0.001	0.004	±0.004%
cannabigerol (CBG)	5.18%	<0.001	0.001	±0.125%
cannabinol (CBN)	ND	0.001	0.002	±0.002%
cannabichromene (CBC)	0.10%	0.001	0.004	±0.007%

Terpenes MSP-7.5.1.6

linalool	0.010%	Δ3-carene	0.035%
β-myrcene	ND	caryophyllene oxide	ND
D-limonene	ND	para-cymene	ND
α-pinene	ND	eucalyptol	ND
β-pinene	ND	geraniol	ND
ocimene	ND	guaiol	0.015%
terpinolene	ND	isopulegol	ND
α-humulene	<LOQ	cis-nerolidol	ND
β-caryophyllene	<LOQ	trans-nerolidol	<LOQ
α-bisabolol	<LOQ	α-terpenine	ND
camphene	ND	γ-terpenine	ND

‡ = decarbed NT = not tested NL = no limit, ND = not detected, LOD = detection limit , LOQ = quantitation limit

Microbial MSP-7.5.1.10

		limit
E.coli	PASS	0CFU
Salmonella sp.	PASS	0CFU
molds	PASS	10000CFU
Ochratoxin A	PASS	20 ppb
Aflatoxin	PASS	20 ppb

Metals MSP-7.5.1.11

		limit
Arsenic	PASS	200 ppb
Cadmium	PASS	200 ppb
Lead	PASS	500 ppb
Mercury	PASS	300 ppb

Solvents MSP-7.5.1.7

		limit
Acetone	PASS	3100 ppm
Acetonitrile	PASS	6 ppm
Benzene	PASS	0 ppm
Butane	PASS	5000 ppm
Chloroform	PASS	0 ppm
Cyclohexane	PASS	3880 ppm
Ethanol	PASS	5000 ppm
Heptane	PASS	5000 ppm
Hexane	PASS	70 ppm
Isopropyl alcohol	PASS	320 ppm
Methanol	PASS	400 ppm
Pentane	PASS	5000 ppm
Propane	PASS	5000 ppm
Toluene	PASS	30 ppm
Xylenes	PASS	10 ppm

Pesticides MSP-7.5.1.8

		limit
Permethrin	PASS	20.00 ppm
Phosmet	PASS	0.20 ppm
Piperonylbutoxide	PASS	8.00 ppm
Prallethrin	PASS	0.40 ppm
Propiconazole	PASS	20.00 ppm
Propoxur	PASS	0.00 ppm
Pyrethrin	PASS	1.00 ppm
Pyridaben	PASS	3.00 ppm
Spinetoram	PASS	3.00 ppm
Spinosad	PASS	3.00 ppm
Spiromesifen	PASS	12.00 ppm
Spirotetramat	PASS	13.00 ppm
Spiroxamine	PASS	0.00 ppm
Tebuconazole	PASS	2.00 ppm
Thiacloprid	PASS	0.10 ppm
Thiamethoxam	PASS	4.50 ppm
Trifloxystrobin	PASS	30.00 ppm

Pesticides MSP-7.5.1.8

		limit
Abamectin	PASS	0.30 ppm
Acephate	PASS	5.00 ppm
Acequinocyl	PASS	4.00 ppm
Acetamiprid	PASS	5.00 ppm
Aldicarb	PASS	0.00 ppm
Azoxystrobin	PASS	40.00
Bifenazate	PASS	5.00 ppm
Bifenthrin	PASS	0.50 ppm
Boscalid	PASS	10.00
Carbaryl	PASS	0.50 ppm
Carbofuran	PASS	0.00 ppm
Chloantraniliprole	PASS	40.00
Chlorfenapyr	PASS	0.00 ppm
Chlorpyrifos	PASS	0.00 ppm
Clofentezine	PASS	0.50 ppm
Coumaphos	PASS	0.00 ppm
Cyfluthrin	PASS	1.00 ppm
Cypermethrin	PASS	1.00 ppm
Daminozide	PASS	0.00 ppm
Dichlorvos	PASS	0.00 ppm
Diazinon	PASS	0.20 ppm
Dimethoate	PASS	0.00 ppm
Etoxazole	PASS	1.50 ppm
Fenoxycarb	PASS	0.00 ppm
Fenpyroximate	PASS	2.00 ppm

Pesticides MSP-7.5.1.8

		limit
Fipronil	PASS	0.00 ppm
Flonicamid	PASS	2.00 ppm
Fludioxonil	PASS	30.00
Hexythiazox	PASS	2.00 ppm
Imazalil	PASS	0.00 ppm
Imidacloprid	PASS	3.00 ppm
Malathion	PASS	5.00 ppm
Metalaxyl	PASS	15.00
Methiocarb	PASS	0.00 ppm
Methomyl	PASS	0.10 ppm
Methyl parathion	PASS	0.00 ppm
Mevinphos	PASS	0.00 ppm
Myclobutanil	PASS	9.00 ppm
Naled	PASS	0.50 ppm
Oxamyl	PASS	0.20 ppm
Paclobutrazol	PASS	0.00 ppm
Permethrin	PASS	20.00

INSTRUMENTS
potency: HPLC (LC2030C-UV)
terpenes: GCMS (QP2020/HS20)
solvents: GCMS (QP2020/HS20)
pesticides: LCMSMS (LC8060)
mycotoxins: LCMSMS (LC8060)
microbial: qPCR (AriaMx) and plating
metals: ICPMS (ICPMS-2030)

SECURITY FEATURE: WATERMARK MUST MATCH CERTIFICATE ID AND ISSUE DATE

Certified by:

Justin M Johnston
Deputy Director

Stillwater Laboratories Inc.
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6073 US93N Suite 5
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406-881-2019

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