

CERTIFICATE OF ANALYSIS

PRODUCT NAME: CBD Tincture - Orange
PRODUCT STRENGTH: 1350mg
LOT NUMBER: 20LL109K11
BEST BY DATE: 10/17/2021
HEMP EXTRACT LOT 112619

Click on the links to view third-party reports

Physical Attributes

Test	Method	Specification	Results
Color	SOP-100	Golden to Amber	PASS
Odor	SOP-100	Characteristic - coconut and hemp, orange	PASS
Appearance	SOP-100	Golden to Amber oil in brown glass bottle with dropper	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	1282.5 - 1687.5 mg CBD LOQ**: 10 PPM† (0.001%)	1439mg	PASS
Potency - D9-THC	SOP-111	None Detected LOQ: 10 PPM (0.001%)	ND	PASS
Compliant Pesticide Panel	SOP-111	Action Limits base on Oregon standard for Pesticides in Cannabis	ND	PASS
Microbial - Stec E.Coli	SOP-111	Complies with USP 61/62	BELOW LOD	PASS
Microbial - Salmonella	SOP-111	Complies with USP 61/62	BELOW LOD	PASS
Microbial - Yeast and Mold	SOP-111	Complies with USP 61/62	BELOW LOD	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 by: *Darcie Moran* 05/2020
 Darcie Moran Date
 Manager of Quality Assurance



total cannabinoids 84.7%
 CBD decarb total 80.7%
 Δ9-THC ND

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



Stillwater Laboratories

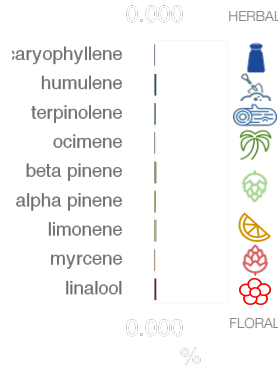
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Sample Handling

test ID 6654 sample date 2/24/20 4:49 PM
 order 6654 labID OBR66 weight
 source

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-7.5.1.9	Hardy Diag
solvents	MSP-7.5.1.6	QP2020/HS20
metals	MSP-7.5.1.10	ICPMS2030

concentrate



Potency

	%	estimated error
tetrahydrocannabinolic acid (THCa)	ND	± 0.02 %
Δ ⁹ -tetrahydrocannabinol (Δ ⁹ THC)	ND	± 0.02 %
Δ ⁸ -tetrahydrocannabinol (Δ ⁸ THC)	ND	± 0.02 %
tetrahydrocannabivarin (THCv)	ND	± 0.02 %
cannabidiolic acid (CBDa)	ND	± 0.02 %
cannabidiol (CBD)	80.7%	± 0.73 %
cannabidivarin (CBDv)	ND	± 0.02 %
cannabigerolic acid (CBGa)	ND	± 0.02 %
cannabigerol (CBG)	4.02%	± 0.16 %
cannabinol (CBN)	ND	± 0.02 %
cannabichromene (CBC)	ND	± 0.02 %

Terpenes

	%	estimated error		%	estimated error		%	estimated error
β-myrcene	0.001%	± 0.0017%	camphene	0.002%	± 0.0017%	guaiol	0.000%	± 0.0017%
β-caryophyllene	0.001%	± 0.0017%	Δ ³ -carene	0.003%	± 0.0018%	β-bisabolol	0.002%	± 0.0017%
alpha-pinene	0.005%	± 0.0018%	a-terpinene	0.000%	± 0.0016%	eucalyptol	0.005%	± 0.0018%
β-pinene	0.008%	± 0.0019%	para-cymene	0.009%	± 0.0019%			
D-limonene	0.009%	± 0.0019%	g-terpinene	0.010%	± 0.0019%			
linalool	0.008%	± 0.0019%	(-)-isopulegol	0.000%	± 0.0016%			
ocimene	0.002%	± 0.0034%	geraniol	0.002%	± 0.0017%			
terpinolene	0.003%	± 0.0018%	cis-nerolidol	0.000%	± 0.0016%			
alpha-humulene	0.007%	± 0.0019%	trans-nerolidol	0.004%	± 0.0018%			

total terpenes 0.08%

Solvents

	MT limit	OBR66	LOQ
propane	5,000	0 ppm	<10ppm
butanes	5,000	0 ppm	<10ppm
pentanes	5,000	0 ppm	<10ppm
hexanes	290	0 ppm	<10ppm
cyclohexane	3,880	0 ppm	<10ppm
heptanes	5,000	0 ppm	<10ppm
methanol	3,000	0 ppm	<10ppm
isopropanol	5,000	0 ppm	<10ppm
acetone	5,000	0 ppm	<10ppm
ethyl acetate	5,000	0 ppm	<10ppm
benzene	2	0 ppm	<0.2ppm
toluene	890	0 ppm	<10ppm
xylenes	2,170	0 ppm	<10ppm
chloroform	2	0 ppm	<0.2ppm
dichloromethane	600	0 ppm	<10ppm

Pesticides (MT)

	MT limit	OBR66	LOQ
abamectin	2.50 ppm	0.00 ppm	<10ppb
acequinocyl	10.00 ppm	0.00 ppm	<10ppb
bifenazate	1.00 ppm	0.00 ppm	<10ppb
bifenthrin	1.00 ppm	0.00 ppm	<10ppb
chlormequat cl.	5.00 ppm	0.00 ppm	<10ppb
cyfluthrin	5.00 ppm	0.00 ppm	<80ppb
diaminozide	5.00 ppm	0.00 ppm	<10ppb
etoxazole	1.00 ppm	0.00 ppm	<10ppb
fenoxycarb	1.00 ppm	0.00 ppm	<10ppb
imazalil	1.00 ppm	0.00 ppm	<10ppb
imidacloprid	2.00 ppm	0.00 ppm	<10ppb
myclobutanil	0.60 ppm	0.00 ppm	<10ppb
paclobutrazol	2.00 ppm	0.00 ppm	<10ppb
pyrethrins	5.00 ppm	0.00 ppm	<10ppb
spinosad	1.00 ppm	0.00 ppm	<10ppb
spiromesifen	1.00 ppm	0.00 ppm	<10ppb
spirotetramat	1.00 ppm	0.00 ppm	<10ppb
trifloxystrobin	1.00 ppm	0.00 ppm	<10ppb

Pesticides (other)

	OBR66	LOQ
acephate	0.00 ppm	<10ppb
acetamidiprid	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
chlorantraniliprole	0.00 ppm	<10ppb
chlorpyrifos	0.00 ppm	<10ppb
clofentazine	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
permethrin	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

Toxic Metals

	MT limit	OBR66	LOQ
arsenic	2 ppm	0.0 ppm	<10ppb
cadmium	0.8 ppm	0.0 ppm	<10ppb
lead	1.2 ppm	0.0 ppm	<10ppb
mercury	0.4 ppm	0.0 ppm	<10ppb

Comments

• All testing was completed onsite at 6073 US93N, Olney MT • Potency (cannabinoid concentration) is calculated from the equation: [cannabinoid] = [cannabinoid]_{HPLC} x volume_{dilution}/m_{dry}. Terpene concentration is calculated from the equation: [terpene] = (terpene mass)_{GCMS} / m_{dry}. • Decarboxyted cannabinoid concentration is calculated from the equation XXX_{total} = 0.877 x XXX_a + 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_g² = Σ (df/di)²s_i² 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
 406-881-2019 rdb@stwlabs.com

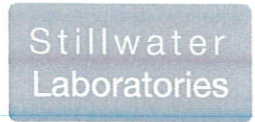
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Orange Bliss 1350mg 20LL109K11

Certificate of Analysis



total cannabinoids	Δ9-THC	THCa	total THC
1503 mg	0 mg	0 mg	0 mg
per	CBD	CBDa	total CBD
30mL	1439 mg	0 mg	1439 mg



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

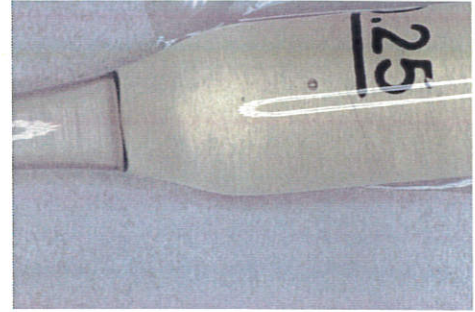
Sample Handling

test ID	sample wt
type	order 7161
lab ID 0DY83	sample date
unit 30mL	unit weight 28.5 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-7.5.1.9 Hardy Diag
solvents	MSP-7.5.1.6 QP2020/HS20
metals	MSP-7.5.1.1 ICPMS2030

Terpene	Color
caryophyllene	Blue
humulene	Light Blue
terpinolene	Light Green
ocimene	Light Green
beta pinene	Light Green
alpha pinene	Light Green
limonene	Light Green
myrcene	Light Green
linalool	Light Green



Potency

per 30mL	estimated error
tetrahydrocannabinolic acid (THCa)	0% 0 mg ± 0.47 mg
Δ ⁹ -tetrahydrocannabinol (Δ ⁹ THC)	0% 0 mg ± 0.47 mg
Δ ⁸ -tetrahydrocannabinol (Δ ⁸ THC)	0% 0 mg ± 0.47 mg
tetrahydrocannabivarin (THCv)	0% 0 mg ± 0.47 mg
cannabidiolic acid (CBDa)	0% 0 mg ± 0.47 mg
cannabidiol (CBD)	5.05% 1439 mg ± 19.17 mg
cannabidivarin (CBDv)	.02% 5 mg ± 1.25 mg
cannabigerolic acid (CBGa)	0% 0 mg ± 0.47 mg
cannabigerol (CBG)	.21% 59 mg ± 3.91 mg
cannabinol (CBN)	0% 0 mg ± 0.47 mg
cannabichromene (CBC)	0% 0 mg ± 0.47 mg

Terpenes

%	estimated error	%	estimated error	%	estimated error
β-myrcene	0.001% ± 0.0017%	camphene	0.000% ± 0.0016%	guaiol	0.000% ± 0.0016%
β-caryophyllene	0.000% ± 0.0016%	Δ3-carene	0.000% ± 0.0016%	β-bisabolol	0.000% ± 0.0017%
alpha-pinene	0.000% ± 0.0016%	a-terpinene	0.000% ± 0.0016%	eucalyptol	0.000% ± 0.0016%
β-pinene	0.001% ± 0.0017%	para-cymene	0.000% ± 0.0016%		
D-limonene	1.038% ± 0.0184%	g-terpinene	0.000% ± 0.0016%		
linalool	0.010% ± 0.0025%	(-)-isopulegol	0.000% ± 0.0016%		
ocimene	0.005% ± 0.0037%	geraniol	0.000% ± 0.0016%		
terpinolene	0.001% ± 0.0017%	cis-nerolidol	0.000% ± 0.0016%		
alpha-humulene	0.000% ± 0.0016%	trans-nerolidol	0.000% ± 0.0016%		
				total terpenes	1.06%

Solvents

MT limit	0DY83	LOQ
propane	5,000	1 ppm <10ppm
butanes	5,000	0 ppm <10ppm
pentanes	5,000	0 ppm <10ppm
hexanes	290	0 ppm <10ppm
cyclohexane	3,880	0 ppm <10ppm
heptanes	5,000	0 ppm <10ppm
methanol	3,000	13 ppm <10ppm
isopropanol	5,000	0 ppm <10ppm
acetone	5,000	0 ppm <10ppm
ethyl acetate	5,000	0 ppm <10ppm
benzene	2	0 ppm <0.2ppm
toluene	890	0 ppm <10ppm
xylenes	2,170	0 ppm <10ppm
chloroform	2	0 ppm <0.2ppm
dichloromethane	600	0 ppm <10ppm

Pesticides (MT)

MT limit	0DY83	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
imazail	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

Pesticides (other)

0DY83	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
chlorantraniliprole	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

Toxic Metals

MT limit	0DY83	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

Extraction using MSP-7.5.1.2b.concentrate
Assumed density 0.95

Microbial

MT limit	0DY83	LOQ
<i>E. coli</i>	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

Certified by:

Ron Brost

Ron Brost, PhD PEng (Chem)

Director
6073 US93N, Olney MT 59927
406-881-2019 rdb@stwlabs.com

• All testing was completed onsite at 6073 US93N, Olney MT •• Potency (cannabinoid concentration) is calculated from the equation: [cannabinoid] = [cannabinoid]_{HTPLC} × volume_{dilution} / m_{dry}. Terpene concentration is calculated from the equation: [terpene] = (terpene mass)_{GCMS} / m_{dry}. ••• Decarboxyated cannabinoid concentration is calculated from the equation XXX_{total} = 0.877 × XXX_a + 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_y² = Σ(∂f/∂i)²s_i² where i is the contributor to error. The 95% confidence range is calculated from the equation: (concentration) ± t_{CL50} × S_y. Sampling error is not