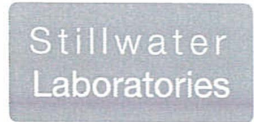


Hemp Balm 2oz 1142020-1

Certificate of Analysis



total cannabinoids	Δ9-THC	THCa	total THC
511 mg	0 mg	0 mg	0 mg
per fl oz	CBD	CBDa	total CBD
	484 mg	1 mg	485 mg



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

Sample Handling

test ID	sample wt	56.8 g
type	order	7171
lab ID	sample date	4/30/2020
unit	unit weight	27.0 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

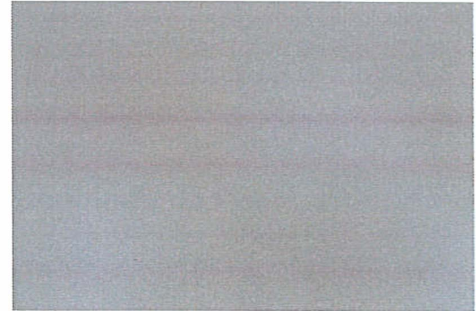
- caryophyllene
- humulene
- terpinolene
- ocimene
- beta pinene
- alpha pinene
- limonene
- myrcene
- linalool

HERBAL



HERBAL

topical



Potency

per fl oz	estimated error
tetrahydrocannabinolic acid (THCa)	0% ± 0.44 mg
Δ ⁹ -tetrahydrocannabinol (Δ ⁹ THC)	0% ± 0.44 mg
Δ ⁸ -tetrahydrocannabinol (Δ ⁸ THC)	0% ± 0.44 mg
tetrahydrocannabivarin (THCv)	0% ± 0.44 mg
cannabidiolic acid (CBDa)	0% ± 0.54 mg
cannabidiol (CBD)	1.79% ± 8.07 mg
cannabidivarin (CBDv)	0% ± 0.53 mg
cannabigerolic acid (CBGA)	0.02% ± 0.91 mg
cannabigerol (CBG)	0.08% ± 1.72 mg
cannabinol (CBN)	0% ± 0.44 mg
cannabichromene (CBC)	0% ± 0.44 mg

Terpenes

%	estimated error	%	estimated error	%	estimated error
β-myrcene	0.003% ± 0.0018%	camphene	0.000% ± 0.0017%	guaiol	0.000% ± 0.0016%
β-caryophyllene	0.001% ± 0.0017%	Δ ³ -carene	0.001% ± 0.0017%	β-bisabolol	0.000% ± 0.0016%
alpha-pinene	0.011% ± 0.0022%	a-terpinene	0.000% ± 0.0016%	eucalyptol	0.211% ± 0.0063%
β-pinene	0.001% ± 0.0017%	para-cymene	0.000% ± 0.0016%		
D-limonene	0.041% ± 0.0032%	g-terpinene	0.003% ± 0.0018%		
linalool	0.057% ± 0.0036%	(-)-isopulegol	0.000% ± 0.0016%		
ocimene	0.034% ± 0.0053%	geraniol	0.001% ± 0.0017%		
terpinolene	0.000% ± 0.0017%	cis-nerolidol	0.000% ± 0.0016%		
alpha-humulene	0.000% ± 0.0016%	trans-nerolidol	0.000% ± 0.0016%		

total terpenes
0.37%

Solvents

MT limit	0DZ64	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	18 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	0DZ64	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
diaminazide	0.00 ppm	<10ppb
etoxazole	0.00 ppm	<10ppb
fenoxy carb	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

Pesticides (other)

0DZ64	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
carbopuran	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	0DZ64	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

Microbial

MT limit	0DZ64	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

Comments

Extraction using MSP-7.5.1.2b.concentrate.
Assumed density 0.95.

All testing was completed onsite at 6073 US93N, Olney MT. Potency (cannabinoid concentration) is calculated from the equation: [cannabinoid] = [cannabinoid]_{HPPLC} × 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 = ∑ (∂f/∂i)² s_i² where i is the contributor to error. The 95% confidence range is calculated from the equation: (concentration) ± t_{CL,90} × s_y. Sampling error is not

Certified by:

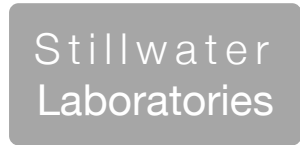
Ron Brost

Ron Brost, PhD PEng (Chem)
Director
6073 US93N, Olney MT 59927
406-881-2019 rdb@stlslabs.com



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

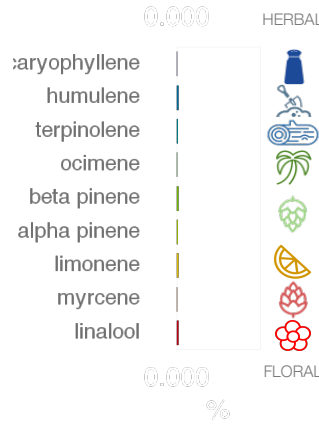


https://portal.a2la.org/scopepdf/4961-01.pdf

Sample Handling

test ID 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	Terpenes	%	estimated error	%	estimated error	%	estimated error		
tetrahydrocannabinolic acid (THCa)	ND	± 0.02 %	β-myrcene	0.001%	± 0.0017%	camphene	0.002%	± 0.0017%	guaiol	0.000%	± 0.0017%
Δ ⁹ -tetrahydrocannabinol (Δ ⁹ THC)	ND	± 0.02 %	β-caryophyllene	0.001%	± 0.0017%	Δ3-carene	0.003%	± 0.0018%	β-bisabolol	0.002%	± 0.0017%
Δ ⁸ -tetrahydrocannabinol (Δ ⁸ THC)	ND	± 0.02 %	alpha-pinene	0.005%	± 0.0018%	a-terpinene	0.000%	± 0.0016%	eucalyptol	0.005%	± 0.0018%
tetrahydrocannabivarin (THCv)	ND	± 0.02 %	β-pinene	0.008%	± 0.0019%	para-cymene	0.009%	± 0.0019%			
cannabidiolic acid (CBDa)	ND	± 0.02 %	D-limonene	0.009%	± 0.0019%	g-terpinene	0.010%	± 0.0019%			
cannabidiol (CBD)	80.7%	± 0.73 %	linalool	0.008%	± 0.0019%	(-)-isopulegol	0.000%	± 0.0016%	total terpenes		0.08%
cannabidivarin (CBDv)	ND	± 0.02 %	ocimene	0.002%	± 0.0034%	geraniol	0.002%	± 0.0017%			
cannabigerolic acid (CBGa)	ND	± 0.02 %	terpinolene	0.003%	± 0.0018%	cis-nerolidol	0.000%	± 0.0016%			
cannabigerol (CBG)	4.02%	± 0.16 %	alpha-humulene	0.007%	± 0.0019%	trans-nerolidol	0.004%	± 0.0018%			
cannabinol (CBN)	ND	± 0.02 %									
cannabichromene (CBC)	ND	± 0.02 %									

Solvents	MT limit	OBR66	LOQ	Pesticides (MT)	MT limit	OBR66	LOQ	Pesticides (other)	OBR66	LOQ
propane	5,000	0 ppm	<10ppm	abamectin	2.50 ppm	0.00 ppm	<10ppb	acephate	0.00 ppm	<10ppb
butanes	5,000	0 ppm	<10ppm	acequinocyl	10.00 ppm	0.00 ppm	<10ppb	acetamiprid	0.00 ppm	<10ppb
pentanes	5,000	0 ppm	<10ppm	bifenazate	1.00 ppm	0.00 ppm	<10ppb	aldicarb	0.00 ppm	<10ppb
hexanes	290	0 ppm	<10ppm	bifenthrin	1.00 ppm	0.00 ppm	<10ppb	azoxystrobin	0.00 ppm	<10ppb
cyclohexane	3,880	0 ppm	<10ppm	chlormequat cl.	5.00 ppm	0.00 ppm	<10ppb	boscalid	0.00 ppm	<10ppb
heptanes	5,000	0 ppm	<10ppm	cyfluthrin	5.00 ppm	0.00 ppm	<80ppb	carbaryl	0.00 ppm	<10ppb
methanol	3,000	0 ppm	<10ppm	diaminozide	5.00 ppm	0.00 ppm	<10ppb	carbofuran	0.00 ppm	<10ppb
isopropanol	5,000	0 ppm	<10ppm	etoxazole	1.00 ppm	0.00 ppm	<10ppb	chloantraniliprole	0.00 ppm	<10ppb
acetone	5,000	0 ppm	<10ppm	fenoxycarb	1.00 ppm	0.00 ppm	<10ppb	chlorpyrifos	0.00 ppm	<10ppb
ethyl acetate	5,000	0 ppm	<10ppm	imazalil	1.00 ppm	0.00 ppm	<10ppb	clofentezine	0.00 ppm	<10ppb
benzene	2	0 ppm	<0.2ppm	imidacloprid	2.00 ppm	0.00 ppm	<10ppb	cypermethrin	0.00 ppm	<10ppb
toluene	890	0 ppm	<10ppm	myclobutanil	0.60 ppm	0.00 ppm	<10ppb	diazinon	0.00 ppm	<10ppb
xylenes	2,170	0 ppm	<10ppm	paclobutrazol	2.00 ppm	0.00 ppm	<10ppb	dichlorvos	0.00 ppm	<10ppb
chloroform	2	0 ppm	<0.2ppm	pyrethrins	5.00 ppm	0.00 ppm	<10ppb	dimethoate	0.00 ppm	<10ppb
dichloromethane	600	0 ppm	<10ppm	spinosad	1.00 ppm	0.00 ppm	<10ppb	etofenprox	0.00 ppm	<10ppb
				spiromesifen	1.00 ppm	0.00 ppm	<10ppb	fenpyroximate	0.00 ppm	<10ppb
				spirotetramat	1.00 ppm	0.00 ppm	<10ppb	fipronil	0.00 ppm	<10ppb
				trifloxystrobin	1.00 ppm	0.00 ppm	<10ppb	flonicamid	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

Microbial	MT limit	OBR66	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

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_y² = Σ (∂f/∂i)² s_i² where i is the contributor to error. The 95% confidence range is calculated from the equation: (concentration) ± t_{CL90} X S_y. Sampling error is not

Certified by:

Kyle Larson, MSc (Biology)
 Deputy Director
 6073 US93N, Olney MT 59927
 406-881-2019 rdb@stwlabs.com

Printed 3/4/2020 1:42 PM

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