

HEMP LABORATORY TEST CERTIFICATE OF ANALYSIS



Hemp Analysis - Summary

Tested by high-performance liquid chromatography with ultraviolet detection (HPLC-UV).

TOTAL THC¹

Not Detected²

CANNABINOID PROFILE

1.6785% Total CBD¹

1.7045% Total Cannabinoids³

Terpenes See page 2



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- 1) Total THC/CBD is calculated using the following formulas to take into account the loss of a carboxyl group during decarboxylation step: Total THC = $\Delta 9\text{THC} + (\text{THCa} (0.877))$ and Total CBD = $\text{CBD} + (\text{CBDa} (0.877))$.
- 2) As defined by the 2018 Farm Bill, hemp must contain no more than 0.3% Total THC, defined as the concentration of delta-9 tetrahydrocannabinol (Δ -9-THC) post-decarboxylation - see formula above.
- 3) Total Cannabinoids result reflects the absolute sum of all cannabinoids detected.

Additional Testing

Pass/Fail defined at action limits set by California Code of Regulations Title 16. Effective date: January 16, 2019. Authority: Section 26013, Business Professions Code. Reference: Sections 26100, 26104, and 26110, Business Professions Code.

RESIDUAL PESTICIDES

PASSED

RESIDUAL SOLVENTS

PASSED

HEAVY METALS

PASSED

MICROBIAL IMPURITIES

PASSED

Freed CBD Balm

Tested for: Freed

Address:

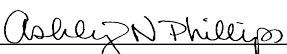
Batch #: FRD006

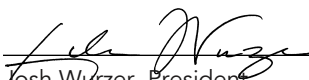
Sample ID: 200109Q007

Date Collected: 01/09/2020

Date Received: 01/09/2020

Final Approval


Ashley Phillips, LQC Verified By
Date: 01/13/2020


Josh Wurzer, President
Date: 01/13/2020

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. The uncertainty of measurement associated with the measurement result reported in this certificate is available from SC Laboratories upon request.



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SC Laboratories, LLC
100 Pioneer Street, Suite E
Santa Cruz, CA 95060
(866) 435-0709 | sclabs.com

Sample Name: Freed CBD Balm
LIMS Sample ID: 200109Q007
Batch #: FRD006
Source METRC UID:

Sample Type: Infused, Topical
Batch Count:
Sample Count:
Unit Mass: 56.699 Grams per Unit
Serving Mass:
Density:

Date Collected: 01/09/2020
Date Received: 01/09/2020
Tested for: Freed

License #:
Address:

Produced by:

License #:
Address:

Moisture Test Results

Moisture **Results (%)**
ND

Cannabinoid Test Results

01/11/2020

Cannabinoid analysis utilizing High Performance Liquid Chromatography (HPLC, QSP 5-4-4-4)

	mg/g	%	LOD / LOQ mg/g
Δ9THC	ND	ND	0.0009 / 0.003
Δ8THC	ND	ND	0.0009 / 0.003
THCa	ND	ND	0.0009 / 0.003
THCV	ND	ND	0.0004 / 0.001
THCVa	ND	ND	0.0013 / 0.004
CBD	16.777	1.6777	0.0009 / 0.003
CBDa	0.009	0.0009	0.0009 / 0.003
CBDV	0.259	0.0259	0.0004 / 0.001
CBDVa	ND	ND	0.0003 / 0.001
CBG	ND	ND	0.001 / 0.003
CBGa	ND	ND	0.0008 / 0.002
CBL	ND	ND	0.0021 / 0.006
CBN	ND	ND	0.0009 / 0.003
CBC	ND	ND	0.0011 / 0.003
CBCa	ND	ND	0.0015 / 0.005

Sum of Cannabinoids:	17.045	1.7045	966.434 mg/Unit
Total THC (Δ9THC+0.877*THCa)	ND	ND	ND
Total CBD (CBD+0.877*CBDa)	16.785	1.6785	951.693 mg/Unit

	Action Limit mg		
Δ9THC per Unit	1000.0	Pass	ND
Δ9THC per Serving			

Batch Photo



Terpene Test Results

01/12/2020

Terpene analysis utilizing Gas Chromatography - Flame Ionization Detection (GC - FID)

	mg/g	%	LOD / LOQ mg/g
☑ Pinene	0.336	0.0336	0.022 / 0.067
Camphene	ND	ND	0.027 / 0.08
Sabinene	ND	ND	0.027 / 0.082
☑ Pinene	ND	ND	0.027 / 0.081
Myrcene	0.133	0.0133	0.027 / 0.082
☑ Phellandrene	ND	ND	0.037 / 0.111
3 Carene	<LOQ	<LOQ	0.029 / 0.087
☑ Terpinene	ND	ND	0.03 / 0.09
Limonene	0.618	0.0618	0.013 / 0.039
Eucalyptol	8.023	0.8023	0.021 / 0.063
Ocimene	0.455	0.0455	0.028 / 0.085
☑ Terpinene	<LOQ	<LOQ	0.03 / 0.09
Sabinene Hydrate	ND	ND	0.018 / 0.054
Fenchone	ND	ND	0.03 / 0.092
Terpinolene	ND	ND	0.022 / 0.067
Linalool	4.055	0.4055	0.019 / 0.058
Fenchol	ND	ND	0.023 / 0.069
(-)-Isopulegol	ND	ND	0.013 / 0.04
Camphor	ND	ND	0.054 / 0.163
Isoborneol	ND	ND	0.033 / 0.101
Borneol	ND	ND	0.048 / 0.146
Menthol	ND	ND	0.022 / 0.067
Terpineol	0.226	0.0226	0.022 / 0.068
Nerol	ND	ND	0.023 / 0.068
R-(+)-Pulegone	ND	ND	0.022 / 0.068
Geraniol	ND	ND	0.017 / 0.05
Geranyl Acetate	0.060	0.0060	0.016 / 0.048
☑ Cedrene	ND	ND	0.017 / 0.051
☑ Caryophyllene	0.407	0.0407	0.018 / 0.054
☑ Humulene	0.382	0.0382	0.013 / 0.038
Valencene	ND	ND	0.008 / 0.023
Nerolidol	ND	ND	0.035 / 0.106
Caryophyllene Oxide	<LOQ	<LOQ	0.028 / 0.084
Guaiol	<LOQ	<LOQ	0.022 / 0.066
Cedrol	ND	ND	0.029 / 0.086
☑ Bisabolol	ND	ND	0.017 / 0.051

Total Terpene Concentration: 14.695 1.4695

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.



Scan to verify at sclabs.com
Sample must be marked as public to be viewable

Ashley Phillips

Ashley Phillips, LQC Verified By
Date: 01/13/2020

Josh Wurzer

Josh Wurzer, President
Date: 01/13/2020



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Batch #: FRD006
Source METRC UID:

Sample Type: Infused, Topical
Batch Count:
Sample Count:
Unit Mass: 56.699 Grams per Unit
Serving Mass:
Density:

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Address:

Produced by:

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Pesticide Test Results - Pass

01/11/2020

Pesticide, Fungicide and plant growth regulator analysis utilizing HPLC-Mass Spectrometry

		Results (µg/g)	Action Limit µg/g	Reporting Limit µg/g
Abamectin	Pass	ND	0.3	0.091
Bifenazate	Pass	ND	5.0	0.035
Bifenthrin	Pass	ND	0.5	0.038
Boscalid	Pass	ND	10.0	0.023
Etoxazole	Pass	ND	1.5	0.022
Imidacloprid	Pass	ND	3.0	0.050
Myclobutanil	Pass	ND	9.0	0.044
Piperonylbutoxide	Pass	0.024	8.0	0.020
Pyrethrins	Pass	ND	1.0	0.036
Spinosad	Pass	ND	3.0	0.031
Spiromesifen	Pass	ND	12.0	0.015
Spirotetramat	Pass	ND	13.0	0.042

Mycotoxin Test Results

Mycotoxin analysis utilizing HPLC-Mass Spectrometry

	Results (µg/kg)	Action Limit µg/kg	LOD / LOQ µg/kg
Aflatoxin B1, B2, G1, G2	NT		
Ochratoxin A	NT		

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License #:
Address:

Residual Solvent Test Results - Pass

01/10/2020

Residual Solvent analysis utilizing Gas Chromatography - Mass Spectrometry (GC - MS)

	Results (µg/g)	Action Limit µg/g	LOD / LOQ µg/g
1,2-Dichloroethane	Pass ND	1.0	0.111 / 0.336
Benzene	Pass ND	1.0	0.043 / 0.132
Chloroform	Pass ND	1.0	0.064 / 0.195
Ethylene Oxide	Pass ND	1.0	0.136 / 0.413
Methylene chloride	Pass ND	1.0	0.172 / 0.521
Trichloroethylene	Pass ND	1.0	0.040 / 0.120
Acetone	Pass ND	5000.0	14.703 / 44.549
Acetonitrile	Pass ND	410.0	2.727 / 8.262
Butane	Pass ND	5000.0	5.672 / 17.185
Ethanol	Pass ND		11.775 / 35.679
Ethyl acetate	Pass ND	5000.0	16.227 / 49.169
Ethyl ether	Pass ND	5000.0	11.608 / 35.172
Heptane	Pass ND	5000.0	12.982 / 39.336
Hexane	Pass ND	290.0	1.816 / 5.502
Isopropyl Alcohol	Pass ND		15.358 / 46.536
Methanol	Pass ND	3000.0	15.584 / 47.220
Pentane	Pass ND	5000.0	12.355 / 37.434
Propane	Pass ND	5000.0	1.359 / 4.117
Toluene	Pass ND	890.0	7.174 / 21.736
Total Xylenes	Pass ND	2170.0	34.438 / 104.347

Microbiological Test Results - Pass

01/11/2020

PCR and fluorescence detection of microbiological impurities

	Results	Action Limit
Shiga toxin-producing Escherichia coli	Pass ND	ND
Salmonella spp.	Pass ND	ND
Aspergillus fumigatus	NT	
Aspergillus flavus	NT	
Aspergillus niger	NT	
Aspergillus terreus	NT	

3M Petrifilm and plate counts for microbiological contamination

	Results (cfu/g)
Aerobic Plate Count	NT
Total Yeast and Mold	NT

Foreign Material Test Results

NT

Water Activity Test Results

Water Activity	Results (Aw)	Action Limit Aw
	NT	

Heavy Metal Test Results - Pass

01/12/2020

Heavy metal analysis utilizing Inductively Coupled Plasma Mass Spectrometry (ICP-MS)

	Results (µg/g)	Action Limit µg/g	LOD / LOQ µg/g
Cadmium	Pass ND	0.5	0.012 / 0.035
Lead	Pass ND	0.5	0.031 / 0.095
Arsenic	Pass ND	1.5	0.013 / 0.039
Mercury	Pass ND	3.0	0.002 / 0.005

Note

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