

HEMP LABORATORY TEST CERTIFICATE OF ANALYSIS



Hemp Analysis - Summary

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



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TOTAL THC¹

Not Detected²

CANNABINOID PROFILE

Not Detected Total CBD¹

99.5762% Total Cannabinoids³

Terpenes Not Tested



- 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 ($\Delta^9\text{-THC}$) 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

CBN-ISO-004

Tested for: Big Sky Scientific

Address: - - -

Batch #:

Sample ID: 200118S003

Date Collected: 01/18/2020

Date Received: 01/18/2020

Final Approval

Danielle Deschene, LQC Verified By
Date: 01/22/2020

Josh Wurzer, President
Date: 01/22/2020

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: CBN-ISO-004

LIMS Sample ID: 200118S003

Batch #:

Source METRC UID:

Sample Type: Other

Batch Count:

Sample Count:

Unit Mass:

Serving Mass:

Density:

Date Collected: 01/18/2020

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License #:

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Produced by:

License #:

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Moisture Test Results

	Results (%)
Moisture	NT

Cannabinoid Test Results

01/22/2020

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

	mg/g	%	LOD / LOQ mg/g
Δ9THC	ND	ND	0.052 / 0.158
Δ8THC	7.326	0.7326	0.053 / 0.162
THCa	ND	ND	0.052 / 0.156
THCV	ND	ND	0.023 / 0.069
THCVa	ND	ND	0.091 / 0.276
CBD	ND	ND	0.052 / 0.158
CBDa	ND	ND	0.052 / 0.156
CBDV	ND	ND	0.021 / 0.063
CBDVa	ND	ND	0.037 / 0.111
CBG	ND	ND	0.030 / 0.092
CBGa	ND	ND	0.044 / 0.133
CBL	ND	ND	0.130 / 0.393
CBN	988.436	98.8436	0.052 / 0.157
CBC	ND	ND	0.031 / 0.094
CBCa	ND	ND	0.129 / 0.392

Sum of Cannabinoids: 995.762 99.5762

Total THC (Δ9THC+0.877*THCa) ND ND
Total CBD (CBD+0.877*CBDa) ND ND

Action Limit mg

Δ9THC per Unit
Δ9THC per Serving

Batch Photo



Terpene Test Results

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

	mg/g	%	LOD / LOQ mg/g
☑ Bisabolol	NT		
☑ Pinene	NT		
3 Carene	NT		
Borneol	NT		
☑ Caryophyllene	NT		
Geraniol	NT		
☑ Humulene	NT		
Terpinolene	NT		
Valencene	NT		
Menthol	NT		
Nerolidol	NT		
Camphene	NT		
Eucalyptol	NT		
☑ Cedrene	NT		
Camphor	NT		
(-)-Isopulegol	NT		
Sabinene	NT		
☑ Terpinene	NT		
☑ Terpinene	NT		
Linalool	NT		
Limonene	NT		
Myrcene	NT		
Fenchol	NT		
☑ Phellandrene	NT		
Caryophyllene Oxide	NT		
Terpineol	NT		
☑ Pinene	NT		
R-(+)-Pulegone	NT		
Geranyl Acetate	NT		
Citronellol	NT		
p-Cymene	NT		
Ocimene	NT		
Guaiol	NT		
Phytol	NT		
Isoborneol	NT		

Total Terpene Concentration: NT

Sample Certification

California Code of Regulations Title 16 Effect Date January 16, 2019
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Date: 01/22/2020

Josh Wurzer, President
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Pesticide Test Results - Pass

01/21/2020

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

		Results (µg/g)	Action Limit µg/g	LOD / LOQ µg/g
Abamectin	Pass	ND	0.3	0.030 / 0.091
Acephate	Pass	ND	5.0	0.013 / 0.039
Acequinocyl	Pass	ND	4.0	0.010 / 0.031
Acetamiprid	Pass	ND	5.0	0.013 / 0.038
Azoxystrobin	Pass	ND	40.0	0.015 / 0.047
Bifenazate	Pass	ND	5.0	0.012 / 0.035
Bifenthrin	Pass	ND	0.5	0.013 / 0.038
Boscalid	Pass	ND	10.0	0.008 / 0.023
Captan	Pass	ND	5.0	0.099 / 0.300
Carbaryl	Pass	ND	0.5	0.014 / 0.043
Chlorantraniliprole	Pass	ND	40.0	0.020 / 0.061
Clofentezine	Pass	ND	0.5	0.009 / 0.027
Cyfluthrin	Pass	ND	1.0	0.099 / 0.299
Cypermethrin	Pass	ND	1.0	0.030 / 0.091
Diazinon	Pass	ND	0.2	0.009 / 0.027
Dimethomorph	Pass	ND	20.0	0.018 / 0.055
Etoxazole	Pass	ND	1.5	0.007 / 0.022
Fenhexamid	Pass	ND	10.0	0.015 / 0.045
Fenpyroximate	Pass	ND	2.0	0.012 / 0.036
Fonicamid	Pass	ND	2.0	0.022 / 0.066
Fludioxonil	Pass	ND	30.0	0.020 / 0.061
Hexythiazox	Pass	ND	2.0	0.009 / 0.027
Imidacloprid	Pass	ND	3.0	0.017 / 0.050
Kresoxim-methyl	Pass	ND	1.0	0.010 / 0.029
Malathion	Pass	ND	5.0	0.006 / 0.019
Metalaxyl	Pass	ND	15.0	0.011 / 0.033
Methomyl	Pass	ND	0.1	0.022 / 0.067
Myclobutanil	Pass	ND	9.0	0.015 / 0.044
Naled	Pass	ND	0.5	0.010 / 0.031
Oxamyl	Pass	ND	0.2	0.014 / 0.042
Pentachloronitrobenzene	Pass	ND	0.2	0.020 / 0.061
Permethrin	Pass	ND	20.0	0.027 / 0.082
Phosmet	Pass	ND	0.2	0.010 / 0.030
Piperonylbutoxide	Pass	ND	8.0	0.007 / 0.020
Prallethrin	Pass	ND	0.4	0.011 / 0.032
Propiconazole	Pass	ND	20.0	0.004 / 0.013
Pyrethrins	Pass	ND	1.0	0.012 / 0.036
Pyridaben	Pass	ND	3.0	0.007 / 0.020
Spinetoram	Pass	ND	3.0	0.006 / 0.017
Spinosad	Pass	ND	3.0	0.010 / 0.031
Spiromesifen	Pass	ND	12.0	0.005 / 0.015
Spirotetramat	Pass	ND	13.0	0.014 / 0.042
Tebuconazole	Pass	ND	2.0	0.006 / 0.018
Thiamethoxam	Pass	ND	4.5	0.011 / 0.033
Trifloxystrobin	Pass	ND	30.0	0.007 / 0.020

Pesticide Test Results - Pass

01/21/2020

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

		Results (µg/g)	Action Limit µg/g	LOD / LOQ µg/g
Aldicarb	Pass	ND	ND	0.030 / 0.091
Carbofuran	Pass	ND	ND	0.029 / 0.089
Chlordane	Pass	ND	ND	0.032 / 0.097
Chlorfenapyr	Pass	ND	ND	0.030 / 0.090
Chlorpyrifos	Pass	ND	ND	0.029 / 0.089
Coumaphos	Pass	ND	ND	0.029 / 0.089
Daminozide	Pass	ND	ND	0.030 / 0.091
DDVP (Dichlorvos)	Pass	ND	ND	0.029 / 0.089
Dimethoate	Pass	ND	ND	0.029 / 0.089
Ethoprop(hos)	Pass	ND	ND	0.029 / 0.089
Etofenprox	Pass	ND	ND	0.029 / 0.089
Fenoxycarb	Pass	ND	ND	0.029 / 0.089
Fipronil	Pass	ND	ND	0.029 / 0.089
Imazalil	Pass	ND	ND	0.029 / 0.089
Methiocarb	Pass	ND	ND	0.029 / 0.089
Methyl parathion	Pass	ND	ND	0.029 / 0.089
Mevinphos	Pass	ND	ND	0.029 / 0.089
Pacllobutrazol	Pass	ND	ND	0.029 / 0.089
Propoxur	Pass	ND	ND	0.029 / 0.089
Spiroxamine	Pass	ND	ND	0.029 / 0.089
Thiacloprid	Pass	ND	ND	0.029 / 0.089

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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Date: 01/22/2020

Josh Wurzer

Josh Wurzer, President
Date: 01/22/2020



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Batch #:

Source METRC UID:

Sample Type: Other

Batch Count:

Sample Count:

Unit Mass:

Serving Mass:

Density:

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License #:

Address:

Residual Solvent Test Results - Pass

01/20/2020

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	5000.0	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 <LOQ	5000.0	15.358 / 46.536
Methanol	Pass ND	3000.0	15.584 / 47.220
Pentane	Pass 560.843	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

01/20/2020

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	Pass ND	ND
Aspergillus flavus	Pass ND	ND
Aspergillus niger	Pass ND	ND
Aspergillus terreus	Pass ND	ND

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

01/21/2020

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 <LOQ	1.5	0.013 / 0.039
Mercury	Pass ND	3.0	0.002 / 0.005

Note

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