

## **Hemp Quality Assurance Testing**

# **CERTIFICATE OF ANALYSIS**

**DATE ISSUED 06/02/2021** 

## SAMPLE NAME: cbdMD Recover 4 oz 750 mg Squeeze

Infused, Non-Inhalable

**CULTIVATOR / MANUFACTURER** 

**Business Name:** License Number:

Address:

SAMPLE DETAIL

Batch Number: 21131 Sample ID: 210526S008 **DISTRIBUTOR / TESTED FOR** 

Business Name: cbdMD License Number: Address:

Date Collected: 05/26/2021 Date Received: 05/26/2021

Batch Size:

Sample Size: 1.0 units Unit Mass: 120 grams per Unit Serving Size: 1 grams per Serving





Scan QR code to verify authenticity of results.

#### **CANNABINOID ANALYSIS - SUMMARY**

**Total THC: Not Detected** 

Total CBD: 861.960 mg/unit

Sum of Cannabinoids: 878.520 mg/unit

Total Cannabinoids: 878.520 mg/unit

Total THC/CBD is calculated using the following formulas to take into account the loss of a carboxyl group during the decarboxylation step:

Total THC =  $\Delta$ 9THC + (THCa (0.877)) Total CBD = CBD + (CBDa (0.877))

Sum of Cannabinoids =  $\Delta$ 9THC + THCa + CBD + CBDa + CBG + CBGa + THCV + THCVa + CBC + CBCa + CBDV + CBDVa +  $\Delta$ 8THC + CBL + CBN Total Cannabinoids = (Δ9THC+0.877\*THCa) + (CBD+0.877\*CBDa) + (CBG+0.877\*CBGa) + (THCV+0.877\*THCVa) + (CBC+0.877\*CBCa) +

(CBDV+0.877\*CBDVa) + Δ8THC + CBL + CBN

## TERPENOID ANALYSIS - SUMMARY

39 TESTED, TOP 3 HIGHLIGHTED

Total Terpenoids: 0.3892%

Menthol 0.817 mg/g

Limonene 0.609 mg/g

 $\alpha$  Pinene 0.557 mg/g

#### **SAFETY ANALYSIS - SUMMARY**

∆9THC per Unit: **⊘PASS** 

Pesticides: PASS

Mycotoxins: PASS

Heavy Metals: PASS

Microbiology (PCR): PASS

Microbiology (Plating): DETECTED

For quality assurance purposes. Not a Pre-Harvest Hemp Lab Test Report. 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.

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.

Decision Rule: Statements of conformity (e.g. Pass/Fail) to specifications are made in this report without taking measurement uncertainty into account. Where statements of conformity are made in this report, the following decision rules are applied: PASS - Results within limits/specifications, FAIL - Results exceed limits/specifications.

References: limit of detection (LOD), limit of quantification (LOQ), not detected (ND), not tested (NT), too numerous to count >250 cfu/plate (TNTC), colony-forming unit (cfu)

: Josh Wurzer, President







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Tested by high-performance liquid chromatography with diode-array detection (HPLC-DAD).

Method: QSP 1157 - Analysis of Cannabinoids by HPLC-DAD

**TOTAL THC: Not Detected** Total THC (Δ9THC+0.877\*THCa)

TOTAL CBD: 861.960 mg/unit

Total CBD (CBD+0.877\*CBDa)

TOTAL CANNABINOIDS: 878.520 mg/unit

Total Cannabinoids (Total THC) + (Total CBD) + (Total CBG) + (Total THCV) + (Total CBC) + (Total CBDV) +  $\Delta$ 8THC + CBL + CBN

TOTAL CBG: 11.280 mg/unit

Total CBG (CBG+0.877\*CBGa)

**TOTAL THCV: ND** 

Total THCV (THCV+0.877\*THCVa)

TOTAL CBC: ND

Total CBC (CBC+0.877\*CBCa)

TOTAL CBDV: 1.920 mg/unit
Total CBDV (CBDV+0.877\*CBDVa)

#### **CANNABINOID TEST RESULTS - 05/28/2021**

	COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
	CBD	0.004 / 0.011	±0.3441	7.183	0.7183
	CBG	0.002 / 0.006	±0.0058	0.094	0.0094
	CBN	0.001 / 0.007	±0.0010	0.028	0.0028
	CBDV	0.002 / 0.012	±0.0008	0.016	0.0016
	Δ9ΤΗC	0.002/0.014	N/A	ND	ND
	Δ8ΤΗC	0.01 / 0.02	N/A	ND	ND
	THCa	0.001 / 0.005	N/A	ND	ND
	THCV	0.002 / 0.012	N/A	ND	ND
	THCVa	0.002/0.019	N/A	ND	ND
•	CBDa	0.001 / 0.026	N/A	ND	ND
	CBDVa	0.001 / 0.018	N/A	ND	ND
	CBGa	0.002 / 0.007	N/A	ND	ND
	CBL	0.003 / 0.010	N/A	ND	ND
	СВС	0.003 / 0.010	N/A	ND	ND
	CBCa	0.001 / 0.015	N/A	ND	ND
	SUM OF CANNAB	INOIDS		7.321 mg/g	0.7321%

## Unit Mass: 120 grams per Unit / Serving Size: 1 grams per Serving

Δ9THC per Unit	1120 per-package limit	ND	PASS
Δ9THC per Serving		ND	
Total THC per Unit		ND	
Total THC per Serving		ND	
CBD per Unit		861.960 mg/unit	
CBD per Serving		7.183 mg/serving	
Total CBD per Unit		861.960 mg/unit	
Total CBD per Serving		7.183 mg/serving	
Sum of Cannabinoids per Unit		878.520 mg/unit	
Sum of Cannabinoids per Serving		7.321 mg/serving	
Total Cannabinoids per Unit		878.520 mg/unit	
Total Cannabinoids per Serving		7.321 mg/serving	





# **CERTIFICATE OF ANALYSIS**



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# **Terpenoid Analysis**

Terpene analysis utilizing gas chromatographyflame ionization detection (GC-FID).

Method: QSP 1192 - Analysis of Terpenoids by GC-FID



#### Menthol

A monoterpenoid alcohol with a fragrance that can be described as fresh, cool and herbal. It is responsible for the distinct odor of mint. It is frequently added to cigarettes and mouthwash as a flavorant. Found in mint, sunflower, micromeria, mountain mint, rose geranium, pennyroyal, tarragon, savory, basil, juniper, couch grass, rhubarb, acinos (basil thyme), ironwort, muña...etc.



#### Limonene

A monoterpene with a fragrance that can be described as orangey, citrusy, sweet and tart. It is most commonly found in nature as D-Limonene and is a primary contributor to the distinct scent of orange peels, from which it is commonly derived. Found in numerous pines, red maple, silver maple, aspens, cottonwoods, hemlocks, sumac, cedar, junipers...etc.



## $\alpha$ Pinene

One of two isomers of the monoterpene Pinene, the most abundant terpene in the natural world. It is responsible for the distinct aroma of many coniferous trees, particularly pines, from which it derives its name. It is a primary constituent of turpentine. Found in pines, rose gun, parsley, frankincense, guava, juniper, rosemary, nutmeg, blue gum, valerian...etc.



COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
Menthol	0.008 / 0.025	±0.0327	0.817	0.0817
Limonene	0.005 / 0.016	±0.0087	0.609	0.0609
α Pinene	0.005 / 0.017	±0.0048	0.557	0.0557
Camphor	0.006/0.019	±0.0145	0.407	0.0407
Eucalyptol	0.006 / 0.018	±0.0073	0.287	0.0287
$\beta$ Caryophyllene	0.004 / 0.012	±0.0090	0.253	0.0253
α Bisabolol	0.008 / 0.026	±0.0117	0.219	0.0219
Camphene	0.005/0.015	±0.0022	0.187	0.0187
Borneol	0.005 / 0.016	±0.0046	0.110	0.0110
βPinene	0.004 / 0.014	±0.0012	0.106	0.0106
Citronellol	0.003/0.010	±0.0041	0.085	0.0085
Linalool	0.009/0.032	±0.0027	0.072	0.0072
Geraniol	0.002 / 0.007	±0.0017	0.038	0.0038
Myrcene	0.008 / 0.025	±0.0004	0.031	0.0031
3 Carene	0.005/0.018	±0.0004	0.028	0.0028
p-Cymene	0.005/0.016	±0.0008	0.028	0.0028
(-)-Isopulegol	0.005/0.016	±0.0009	0.022	0.0022
R-(+)-Pulegone	0.003/0.011	±0.0009	0.022	0.0022
Isoborneol	0.004 / 0.012	±0.0006	0.014	0.0014
γTerpinene	0.006 / 0.018	N/A	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
Terpineol	0.016 / 0.055	N/A	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
Sabinene	0.004 / 0.014	N/A	ND	ND
α Phellandrene	0.006 / 0.020	N/A	ND	ND
αTerpinene	0.005 / 0.017	N/A	ND	ND
Ocimene	0.011/0.038	N/A	ND	ND
Sabinene Hydrate	0.006 / 0.022	N/A	ND	ND
Fenchone	0.009 / 0.028	N/A	ND	ND
Terpinolene	0.008 / 0.026	N/A	ND	ND
Fenchol	0.010 / 0.034	N/A	ND	ND
Nerol	0.003/0.011	N/A	ND	ND
Geranyl Acetate	0.004 / 0.014	N/A	ND	ND
α Cedrene	0.005 / 0.016	N/A	ND	ND
trans-β-Farnesene	0.008 / 0.025	N/A	ND	ND
α Humulene	0.009/0.029	N/A	ND	ND
Valencene	0.009 / 0.030	N/A	ND	ND
Nerolidol	0.009 / 0.028	N/A	ND	ND
Caryophyllene Oxide	0.010 / 0.033	N/A	ND	ND
Guaiol	0.009/0.030	N/A	ND	ND
Cedrol	0.008 / 0.027	N/A	ND	ND
TOTAL TERPENOIDS			3.892 mg/g	0.3892%









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# **Pesticide Analysis**

#### **CATEGORY 1 AND 2 PESTICIDES**

Pesticide and plant growth regulator analysis utilizing high-performance liquid chromatography-mass spectrometry (HPLC-MS) or gas chromatography-mass spectrometry (GC-MS).

\*GC-MS utilized where indicated.

**Method:** QSP 1212 - Analysis of Pesticides and Mycotoxins by LC-MS or QSP 1213 - Analysis of Pesticides by GC-MS

## CATEGORY 1 PESTICIDE TEST RESULTS - 05/30/2021 PASS

	COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (µg/g)	RESULT
Ī	Aldicarb	0.03 / 0.08	≥LOD	N/A	ND	PASS
	Carbofuran	0.02 / 0.05	≥LOD	N/A	ND	PASS
	Chlordane*	0.03 / 0.08	≥LOD	N/A	ND	PASS
Ī	Chlorfenapyr*	0.03 / 0.10	≥LOD	N/A	ND	PASS
Ī	Chlorpyrifos	0.02 / 0.06	≥LOD	N/A	ND	PASS
	Coumaphos	0.02 / 0.07	≥LOD	N/A	ND	PASS
	Daminozide	0.02 / 0.07	≥LOD	N/A	ND	PASS
Ī	DDVP (Dichlorvos)	0.03 / 0.09	≥LOD	N/A	ND	PASS
	Dimethoate	0.03 / 0.08	≥LOD	N/A	ND	PASS
Ī	Ethoprop(hos)	0.03 / 0.10	≥LOD	N/A	ND	PASS
	Etofenprox	0.02 / 0.06	≥LOD	N/A	ND	PASS
	Fenoxycarb	0.03 / 0.08	≥LOD	N/A	ND	PASS
Ī	Fipronil	0.03 / 0.08	≥LOD	N/A	ND	PASS
Ī	Imazalil	0.02 / 0.06	≥LOD	N/A	ND	PASS
	Methiocarb	0.02 / 0.07	≥LOD	N/A	ND	PASS
Ī	Methyl parathion	0.03 / 0.10	≥LOD	N/A	ND	PASS
Ī	Mevinphos	0.03 / 0.09	≥LOD	N/A	ND	PASS
	Paclobutrazol	0.02 / 0.05	≥LOD	N/A	ND	PASS
	Propoxur	0.03 / 0.09	≥LOD	N/A	ND	PASS
4	Spiroxamine	0.03 / 0.08	≥LOD	N/A	ND	PASS
	Thiacloprid	0.03 / 0.10	≥LOD	N/A	ND	PASS
-						

## CATEGORY 2 PESTICIDE TEST RESULTS - 05/30/2021 PASS

Abamectin	0.03 / 0.10	0.3	N/A	ND	PASS
Acephate	0.02 / 0.07	5	N/A	ND	PASS
Acequinocyl	0.02 / 0.07	4	N/A	ND	PASS
Acetamiprid	0.02 / 0.05	5	N/A	ND	PASS
Azoxystrobin	0.02 / 0.07	40	N/A	ND	PASS
Bifenazate	0.01 / 0.04	5	N/A	ND	PASS
Bifenthrin	0.02 / 0.05	0.5	N/A	ND	PASS
Boscalid	0.03 / 0.09	10	N/A	ND	PASS
Captan	0.19/0.57	5	N/A	ND	PASS
Carbaryl	0.02 / 0.06	0.5	N/A	ND	PASS
Chlorantraniliprole	0.04 / 0.12	40	N/A	ND	PASS
Clofentezine	0.03/0.09	0.5	N/A	ND	PASS
Cyfluthrin	0.12 / 0.38	1	N/A	ND	PASS
Cypermethrin	0.11/0.32	1	N/A	ND	PASS
Diazinon	0.02 / 0.05	0.2	N/A	ND	PASS
Dimethomorph	0.03/0.09	20	N/A	ND	PASS
Etoxazole	0.02 / 0.06	1.5	N/A	ND	PASS
Fenhexamid	0.03 / 0.09	10	N/A	ND	PASS
Fenpyroximate	0.02 / 0.06	2	N/A	ND	PASS



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# Pesticide Analysis Continued

sc labs™

#### **CATEGORY 1 AND 2 PESTICIDES**

Pesticide and plant growth regulator analysis utilizing high-performance liquid chromatography-mass spectrometry (HPLC-MS) or gas chromatography-mass spectrometry (GC-MS).

\*GC-MS utilized where indicated.

Method: QSP 1212 - Analysis of Pesticides and Mycotoxins by LC-MS or QSP 1213 - Analysis of Pesticides by GC-MS

### CATEGORY 2 PESTICIDE TEST RESULTS - 05/30/2021 continued PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (µg/g)	RESULT
Flonicamid	0.03 / 0.10	2	N/A	ND	PASS
Fludioxonil	0.03 / 0.10	30	N/A	ND	PASS
Hexythiazox	0.02 / 0.07	2	N/A	ND	PASS
Imidacloprid	0.04 / 0.11	3	N/A	ND	PASS
Kresoxim-methyl	0.02 / 0.07	1	N/A	ND	PASS
Malathion	0.03/0.09	5	N/A	ND	PASS
Metalaxyl	0.02 / 0.07	15	N/A	ND	PASS
Methomyl	0.03 / 0.10	0.1	N/A	ND	PASS
Myclobutanil	0.03/0.09	9	N/A	ND	PASS
Naled	0.02 / 0.07	0.5	N/A	ND	PASS
Oxamyl	0.04 / 0.11	0.2	N/A	ND	PASS
Pentachloronitrobenzene*	0.03/0.09	0.2	N/A	ND	PASS
Permethrin	0.04 / 0.12	20	N/A	ND	PASS
Phosmet	0.03 / 0.10	0.2	N/A	ND	PASS
Piperonylbutoxide	0.02 / 0.07	8	N/A	ND	PASS
Prallethrin	0.03 / 0.08	0.4	N/A	ND	PASS
Propiconazole	0.02 / 0.07	20	N/A	ND	PASS
Pyrethrins	0.04 / 0.12	1	N/A	ND	PASS
Pyridaben	0.02 / 0.07	3	N/A	ND	PASS
Spinetoram	0.02 / 0.07	3	N/A	ND	PASS
Spinosad	0.02 / 0.07	3	N/A	ND	PASS
Spiromesifen	0.02 / 0.05	12	N/A	ND	PASS
Spirotetramat	0.02 / 0.06	13	N/A	ND	PASS
Tebuconazole	0.02 / 0.07	2	N/A	ND	PASS
Thiamethoxam	0.03 / 0.10	4.5	N/A	ND	PASS
Trifloxystrobin	0.03/0.08	30	N/A	ND	PASS



# **Mycotoxin Analysis**

Mycotoxin analysis utilizing high-performance liquid chromatography-mass spectrometry (HPLC-MS).

Method: QSP 1212 - Analysis of Pesticides and Mycotoxins by LC-MS

### MYCOTOXIN TEST RESULTS - 05/30/2021 PASS

COMPOUND	LOD/LOQ (µg/kg)	ACTION LIMIT (µg/kg)	MEASUREMENT UNCERTAINTY (μg/kg)	RESULT (µg/kg)	RESULT
Aflatoxin B1	2.0 / 6.0		N/A	ND	
Aflatoxin B2	1.8 / 5.6		N/A	ND	
Aflatoxin G1	1.0 / 3.1		N/A	ND	
Aflatoxin G2	1.2 / 3.5		N/A	ND	
Total Aflatoxin		20		ND	PASS
Ochratoxin A	6.3 / 19.2	20	N/A	ND	PASS





# **Hemp Quality Assurance Testing**

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# **Heavy Metals Analysis**

Heavy metal analysis utilizing inductively coupled plasma-mass spectrometry (ICP-MS).

Method: QSP 1160 - Analysis of Heavy Metals by ICP-MS

#### **HEAVY METALS TEST RESULTS - 05/29/2021** PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (μg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (μg/g)	RESULT
Arsenic	0.02 / 0.1	1.5	N/A	ND	PASS
Cadmium	0.02 / 0.05	0.5	N/A	ND	PASS
Lead	0.04 / 0.1	0.5	N/A	ND	PASS
Mercury	0.002 / 0.01	3	N/A	ND	PASS



# **Microbiology Analysis**

PCR AND PLATING

Analysis conducted by polymerase chain reaction (PCR) and fluorescence detection of microbiological contaminants.

Method: QSP 1221 - Analysis of Microbiological Contaminants

Analysis conducted by  $3M^{TM}$  Petrifilm and plate counts of microbiological contaminants.

Method: QSP 6794 - Plating with 3M™ Petrifilm™

## MICROBIOLOGY TEST RESULTS (PCR) - 06/02/2021 PASS

	COMPOUND	ACTION LIMIT	RESULT	RESULT
Ī	Shiga toxin-producing Escherichia coli	Detect	ND	PASS
	Salmonella spp.	Detect	ND	PASS
	Candida albicans		ND	
	Listeria monocytogenes		ND	

#### MICROBIOLOGY TEST RESULTS (PLATING) - 06/02/2021 DETECTED

	COMPOUND	RESULT (cfu/g)
J	Total Aerobic Bacteria	100
4	Total Yeast and Mold	ND

