

**SAMPLE NAME:** cbdMD TIN-NF-3030 Nat3000mg

Infused, Hemp

**CULTIVATOR / MANUFACTURER**
**Business Name:**
**License Number:**
**Address:**
**DISTRIBUTOR / TESTED FOR**
**Business Name:** Open Book Extracts

**License Number:**
**Address:** 317 Lucy Garrett Road  
Roxboro NC 27574

**SAMPLE DETAIL**
**Batch Number:** 22061T1.2

**Sample ID:** 220720L018

**Date Collected:** 07/20/2022

**Date Received:** 07/20/2022

**Batch Size:**
**Sample Size:**
**Unit Mass:** 30 milliliters per Unit

**Serving Size:**

Scan QR code to verify  
authenticity of results.

**CANNABINOID ANALYSIS - SUMMARY**
**Total THC:** **Not Detected**
**Total CBD:** **3523.740 mg/unit**
**Sum of Cannabinoids:** **3553.140 mg/unit**
**Total Cannabinoids:** **3553.140 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 =  $\Delta^9$ -THC + (THCa (0.877))

Total CBD = CBD + (CBDa (0.877))

Sum of Cannabinoids =  $\Delta^9$ -THC + THCa + CBD + CBDa + CBG + CBGa + THCV + THCVa + CBC + CBCa + CBDV + CBDVa +  $\Delta^8$ -THC + CBL + CBN

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

**Density:** 0.9556 g/mL

**TERPENOID ANALYSIS - SUMMARY**

39 TESTED, TOP 3 HIGHLIGHTED

**Total Terpenoids:** **0.0758%**

 **Limonene 0.758 mg/g**
**SAFETY ANALYSIS - SUMMARY**
**Pesticides:** **ND**
**Mycotoxins:** **ND**
**Residual Solvents:** **DETECTED**
**Heavy Metals:** **ND**
**Microbiology (PCR):** **ND**
**Microbiology (Plating):** **ND**
**Foreign Material:** **PASS**


For quality assurance purposes. Not a Regulatory 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 4 Division 19. Department of Cannabis Control 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)

  
LQC verified by: Michael Pham  
Date: 09/18/2022

  
Approved by: Josh Wurzer, President  
Date: 09/18/2022



## Cannabinoid Analysis

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 ( $\Delta^9$ -THC+0.877\*THCa)

### TOTAL CBD: **3523.740 mg/unit**

Total CBD (CBD+0.877\*CBDA)

### TOTAL CANNABINOIDS: **3553.140 mg/unit**

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

### TOTAL CBG: **12.210 mg/unit**

Total CBG (CBG+0.877\*CBCa)

### TOTAL THCV: **ND**

Total THCV (THCV+0.877\*THCVa)

### TOTAL CBC: **<LOQ**

Total CBC (CBC+0.877\*CBCa)

### TOTAL CBDV: **13.290 mg/unit**

Total CBDV (CBDV+0.877\*CBDVa)

## CANNABINOID TEST RESULTS - 07/21/2022

COMPOUND	LOD/LOQ (mg/mL)	MEASUREMENT UNCERTAINTY (mg/mL)	RESULT (mg/mL)	RESULT (%)
CBD	0.004 / 0.011	$\pm 4.3812$	117.458	12.2915
CBDV	0.002 / 0.012	$\pm 0.0181$	0.443	0.0464
CBG	0.002 / 0.006	$\pm 0.0197$	0.407	0.0426
CBN	0.001 / 0.007	$\pm 0.0037$	0.130	0.0136
CBC	0.003 / 0.010	N/A	<LOQ	<LOQ
$\Delta^9$ -THC	0.002 / 0.014	N/A	ND	ND
$\Delta^8$ -THC	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
CBCa	0.001 / 0.015	N/A	ND	ND
SUM OF CANNABINOIDS			118.438 mg/mL	12.3941%

## Unit Mass: 30 milliliters per Unit

$\Delta^9$ -THC per Unit	ND
Total THC per Unit	ND
CBD per Unit	3523.740 mg/unit
Total CBD per Unit	3523.740 mg/unit
Sum of Cannabinoids per Unit	3553.140 mg/unit
Total Cannabinoids per Unit	3553.140 mg/unit

## DENSITY TEST RESULT

0.9556 g/mL

Tested 07/21/2022

**Method:** QSP 7870 - Sample Preparation



## Terpenoid Analysis

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

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

### 1 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.

## TERPENOID TEST RESULTS - 09/17/2022

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
Limonene	0.005 / 0.016	±0.0084	0.758	0.0758
α-Pinene	0.005 / 0.017	N/A	ND	ND
Camphene	0.005 / 0.015	N/A	ND	ND
Sabinene	0.004 / 0.014	N/A	ND	ND
β-Pinene	0.004 / 0.014	N/A	ND	ND
Myrcene	0.008 / 0.025	N/A	ND	ND
α-Phellandrene	0.006 / 0.020	N/A	ND	ND
Δ <sup>3</sup> -Carene	0.005 / 0.018	N/A	ND	ND
α-Terpinene	0.005 / 0.017	N/A	ND	ND
p-Cymene	0.005 / 0.016	N/A	ND	ND
Eucalyptol	0.006 / 0.018	N/A	ND	ND
β-Ocimene	0.006 / 0.020	N/A	ND	ND
γ-Terpinene	0.006 / 0.018	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
Linalool	0.009 / 0.032	N/A	ND	ND
Fenchol	0.010 / 0.034	N/A	ND	ND
Isopulegol	0.005 / 0.016	N/A	ND	ND
Camphor	0.006 / 0.019	N/A	ND	ND
Isoborneol	0.004 / 0.012	N/A	ND	ND
Borneol	0.005 / 0.016	N/A	ND	ND
Menthol	0.008 / 0.025	N/A	ND	ND
Terpineol	0.009 / 0.031	N/A	ND	ND
Nerol	0.003 / 0.011	N/A	ND	ND
Citronellol	0.003 / 0.010	N/A	ND	ND
Pulegone	0.003 / 0.011	N/A	ND	ND
Geraniol	0.002 / 0.007	N/A	ND	ND
Geranyl Acetate	0.004 / 0.014	N/A	ND	ND
α-Cedrene	0.005 / 0.016	N/A	ND	ND
β-Caryophyllene	0.004 / 0.012	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	0.006 / 0.019	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
α-Bisabolol	0.008 / 0.026	N/A	ND	ND
<b>TOTAL TERPENOIDS</b>			<b>0.758 mg/g</b>	<b>0.0758%</b>



## Pesticide Analysis

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

### PESTICIDE TEST RESULTS - 09/15/2022 ND

COMPOUND	LOD/LOQ (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)
Abamectin	0.03 / 0.10	N/A	ND
Acephate	0.02 / 0.07	N/A	ND
Acequinocyl	0.02 / 0.07	N/A	ND
Acetamiprid	0.02 / 0.05	N/A	ND
Aldicarb	0.03 / 0.08	N/A	ND
Azoxystrobin	0.02 / 0.07	N/A	ND
Bifenazate	0.01 / 0.04	N/A	ND
Bifenthrin	0.02 / 0.05	N/A	ND
Boscalid	0.03 / 0.09	N/A	ND
Captan	0.19 / 0.57	N/A	ND
Carbaryl	0.02 / 0.06	N/A	ND
Carbofuran	0.02 / 0.05	N/A	ND
Chlorantraniliprole	0.04 / 0.12	N/A	ND
Chlordane*	0.03 / 0.08	N/A	ND
Chlorfenapyr*	0.03 / 0.10	N/A	ND
Chlorpyrifos	0.02 / 0.06	N/A	ND
Clofentezine	0.03 / 0.09	N/A	ND
Coumaphos	0.02 / 0.07	N/A	ND
Cyfluthrin	0.12 / 0.38	N/A	ND
Cypermethrin	0.11 / 0.32	N/A	ND
Daminozide	0.02 / 0.07	N/A	ND
Diazinon	0.02 / 0.05	N/A	ND
Dichlorvos (DDVP)	0.03 / 0.09	N/A	ND
Dimethoate	0.03 / 0.08	N/A	ND
Dimethomorph	0.03 / 0.09	N/A	ND
Ethoprophos	0.03 / 0.10	N/A	ND
Etofenprox	0.02 / 0.06	N/A	ND
Etoxazole	0.02 / 0.06	N/A	ND
Fenhexamid	0.03 / 0.09	N/A	ND
Fenoxycarb	0.03 / 0.08	N/A	ND
Fenpyroximate	0.02 / 0.06	N/A	ND
Fipronil	0.03 / 0.08	N/A	ND
Flonicamid	0.03 / 0.10	N/A	ND
Fludioxonil	0.03 / 0.10	N/A	ND
Hexythiazox	0.02 / 0.07	N/A	ND
Imazalil	0.02 / 0.06	N/A	ND
Imidacloprid	0.04 / 0.11	N/A	ND
Kresoxim-methyl	0.02 / 0.07	N/A	ND
Malathion	0.03 / 0.09	N/A	ND
Metalaxyl	0.02 / 0.07	N/A	ND
Methiocarb	0.02 / 0.07	N/A	ND

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## Pesticide Analysis *Continued*

### PESTICIDE TEST RESULTS - 09/15/2022 *continued* ND

COMPOUND	LOD/LOQ (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)
Methomyl	0.03 / 0.10	N/A	ND
Mevinphos	0.03 / 0.09	N/A	ND
Myclobutanil	0.03 / 0.09	N/A	ND
Naled	0.02 / 0.07	N/A	ND
Oxamyl	0.04 / 0.11	N/A	ND
Paclobutrazol	0.02 / 0.05	N/A	ND
Parathion-methyl	0.03 / 0.10	N/A	ND
Pentachloronitrobenzene*	0.03 / 0.09	N/A	ND
Permethrin	0.04 / 0.12	N/A	ND
Phosmet	0.03 / 0.10	N/A	ND
Piperonyl Butoxide	0.02 / 0.07	N/A	ND
Prallethrin	0.03 / 0.08	N/A	ND
Propiconazole	0.02 / 0.07	N/A	ND
Propoxur	0.03 / 0.09	N/A	ND
Pyrethrins	0.04 / 0.12	N/A	ND
Pyridaben	0.02 / 0.07	N/A	ND
Spinetoram	0.02 / 0.07	N/A	ND
Spinosad	0.02 / 0.07	N/A	ND
Spiromesifen	0.02 / 0.05	N/A	ND
Spirotetramat	0.02 / 0.06	N/A	ND
Spiroxamine	0.03 / 0.08	N/A	ND
Tebuconazole	0.02 / 0.07	N/A	ND
Thiacloprid	0.03 / 0.10	N/A	ND
Thiamethoxam	0.03 / 0.10	N/A	ND
Trifloxystrobin	0.03 / 0.08	N/A	ND



## Mycotoxin Analysis

### MYCOTOXIN TEST RESULTS - 09/15/2022 ND

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

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

COMPOUND	LOD/LOQ (µg/kg)	MEASUREMENT UNCERTAINTY (µg/kg)	RESULT (µg/kg)
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			ND
Ochratoxin A	6.3 / 19.2	N/A	ND



## Residual Solvents Analysis

Residual Solvent analysis utilizing gas chromatography-mass spectrometry (GC-MS).

**Method:** QSP 1204 - Analysis of Residual Solvents by GC-MS

### RESIDUAL SOLVENTS TEST RESULTS - 09/15/2022 DETECTED

COMPOUND	LOD/LOQ (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)
Propane	10 / 20	N/A	ND
n-Butane	10 / 50	N/A	ND
n-Pentane	20 / 50	N/A	ND
n-Hexane	2 / 5	N/A	ND
n-Heptane	20 / 60	N/A	ND
Benzene	0.03 / 0.09	N/A	ND
Toluene	7 / 21	N/A	ND
Total Xylenes	50 / 160	N/A	ND
Methanol	50 / 200	N/A	ND
Ethanol	20 / 50	N/A	ND
2-Propanol (Isopropyl Alcohol)	10 / 40	N/A	ND
Acetone	20 / 50	N/A	<LOQ
Ethyl Ether	20 / 50	N/A	ND
Ethylene Oxide	0.3 / 0.8	N/A	ND
Ethyl Acetate	20 / 60	N/A	ND
Chloroform	0.1 / 0.2	N/A	ND
Dichloromethane (Methylene Chloride)	0.3 / 0.9	N/A	ND
Trichloroethylene	0.1 / 0.3	N/A	ND
1,2-Dichloroethane	0.05 / 0.1	N/A	ND
Acetonitrile	2 / 7	N/A	ND



## 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 - 09/15/2022 ND

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



## 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

### MICROBIOLOGY TEST RESULTS (PCR) - 09/16/2022 ND

COMPOUND	RESULT
Shiga toxin-producing <i>Escherichia coli</i>	ND
<i>Salmonella</i> spp.	ND
<i>Listeria monocytogenes</i>	ND



## Microbiology Analysis *Continued*

Analysis conducted by 3M™ Petrifilm™ and plate counts of microbiological contaminants.

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

### MICROBIOLOGY TEST RESULTS (PLATING) - 09/16/2022 ND

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



## Foreign Material Analysis

Visual analysis includes, but is not limited to, sand, soil, cinders, dirt, mold, hair, insect fragments, and mammalian excreta.

**Method:** QSP 1226 - Analysis of Foreign Material in Cannabis and Cannabis Products

### FOREIGN MATERIAL TEST RESULTS - 09/15/2022 ✓ PASS

COMPOUND	ACTION LIMIT	RESULT
Total Sample Area Covered by Sand, Soil, Cinders, or Dirt	>25%	PASS
Total Sample Area Covered by Mold	>25%	PASS
Total Sample Area Covered by an Imbedded Foreign Material	>25%	PASS
Insect Fragment Count	> 1 per 3 grams	PASS
Hair Count	> 1 per 3 grams	PASS
Mammalian Excreta Count	> 1 per 3 grams	PASS

### NOTES

COA amended to reflect requested assays.