

**SAMPLE NAME: R&R Organic THC-Free Broad Spectrum 1000mg Tincture - Fresh Mint**  
Infused, Colorado Infused

**CULTIVATOR / MANUFACTURER**

**Business Name:**  
**License Number:**  
**Address:**

**DISTRIBUTOR / TESTED FOR**

**Business Name: R&R CBD**  
**License Number:**  
**Address:**

**SAMPLE DETAIL**

**Batch Number:** 7003B  
**Sample ID:** 230314M007  
**Date of Sampling:** 03/14/2023  
**Time of Sampling:** 11:35 a.m.  
**Sampler Name:**  
**Sampler Company:**

**Date Collected:** 03/14/2023  
**Date Received:** 03/14/2023  
**Batch Size:**  
**Sample Size:** 1.0 units  
**Unit Mass:** 30 milliliters per Unit  
**Serving Size:** 1 milliliters per Serving



Scan QR code to verify authenticity of results.

**CANNABINOID ANALYSIS - SUMMARY**

**Total THC: Not Detected**

**Total CBD: 1031.790 mg/unit**

**Sum of Cannabinoids: 1109.250 mg/unit**

**Total Cannabinoids: 1108.440 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: 0.9492 g/mL**

**TERPENOID ANALYSIS - SUMMARY**

39 TESTED, TOP 3 HIGHLIGHTED

**Total Terpenoids: 0.1163%**

● **Menthol 0.620 mg/g** ●  **$\alpha$ -Bisabolol 0.260 mg/g** ● **Guaiol 0.105 mg/g**

**SAFETY ANALYSIS - SUMMARY**

**Pesticides: ND**

**Mycotoxins: ✔PASS**

**Residual Solvents: ND**

**Heavy Metals: ✔PASS**

**Microbiology (PCR): ✔PASS**

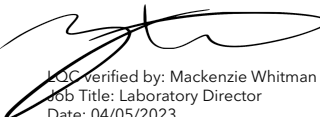
**Microbiology (Plating): ✔PASS**

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:** 6 CCR 1010-21 Colorado Wholesale Food, Industrial Hemp, and Shellfish Regulations; where applicable

**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: Mackenzie Whitman  
 Job Title: Laboratory Director  
 Date: 04/05/2023

  
 Approved by: Josh Wurzer  
 Job Title: Chief Compliance Officer  
 Date: 04/05/2023



## 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: **1031.790 mg/unit**

Total CBD (CBD+0.877\*CBDA)

### TOTAL CANNABINOIDS: **1108.440 mg/unit**

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

### TOTAL CBG: **15.810 mg/unit**

Total CBG (CBG+0.877\*CBGa)

### TOTAL THCV: **ND**

Total THCV (THCV+0.877\*THCVa)

### TOTAL CBC: **28.560 mg/unit**

Total CBC (CBC+0.877\*CBCa)

### TOTAL CBDV: **10.650 mg/unit**

Total CBDV (CBDV+0.877\*CBDVa)

## CANNABINOID TEST RESULTS - 03/20/2023

COMPOUND	LOD/LOQ (mg/mL)	MEASUREMENT UNCERTAINTY (mg/mL)	RESULT (mg/mL)	RESULT (%)
CBD	0.004 / 0.011	±1.2757	34.202	3.6032
CBC	0.003 / 0.010	±0.0307	0.952	0.1003
CBN	0.001 / 0.007	±0.0187	0.650	0.0685
CBG	0.002 / 0.006	±0.0256	0.527	0.0555
CBDV	0.002 / 0.012	±0.0145	0.355	0.0374
CBDA	0.001 / 0.026	±0.0062	0.218	0.0230
CBL	0.003 / 0.010	±0.0026	0.071	0.0075
$\Delta^9$ -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
CBDVa	0.001 / 0.018	N/A	ND	ND
CBGa	0.002 / 0.007	N/A	ND	ND
CBCa	0.001 / 0.015	N/A	ND	ND
Total THC		N/A	ND	ND
<b>SUM OF CANNABINOIDS</b>			<b>36.975 mg/mL</b>	<b>3.8954%</b>

## Unit Mass: 30 milliliters per Unit / Serving Size: 1 milliliters per Serving

$\Delta^9$ -THC per Unit	ND
$\Delta^9$ -THC per Serving	ND
Total THC per Unit	ND
Total THC per Serving	ND
CBD per Unit	1026.060 mg/unit
CBD per Serving	34.202 mg/serving
Total CBD per Unit	1031.790 mg/unit
Total CBD per Serving	34.393 mg/serving
Sum of Cannabinoids per Unit	1109.250 mg/unit
Sum of Cannabinoids per Serving	36.975 mg/serving
Total Cannabinoids per Unit	1108.440 mg/unit
Total Cannabinoids per Serving	36.948 mg/serving

## DENSITY TEST RESULT

0.9492 g/mL

Tested 03/20/2023

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

### TERPENOID TEST RESULTS - 03/21/2023

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
Menthol	0.008 / 0.025	±0.0193	0.620	0.0620
α-Bisabolol	0.008 / 0.026	±0.0108	0.260	0.0260
Guaiol	0.009 / 0.030	±0.0039	0.105	0.0105
Eucalyptol	0.006 / 0.018	±0.0018	0.090	0.0090
Borneol	0.005 / 0.016	±0.0019	0.058	0.0058
β-Caryophyllene	0.004 / 0.012	±0.0005	0.018	0.0018
Pulegone	0.003 / 0.011	±0.0004	0.012	0.0012
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
Limonene	0.005 / 0.016	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
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
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
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
Cedrol	0.008 / 0.027	N/A	ND	ND
<b>TOTAL TERPENOIDS</b>			<b>1.163 mg/g</b>	<b>0.1163%</b>

### 1 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.

### 2 α-Bisabolol

A sesquiterpene alcohol with a fragrance that can be described as floral, peppery, sweet and clean. Found in chamomile, figwort, yarrow, skullcaps, lavender, ironwort, germander...etc.

### 3 Guaiol

A sesquiterpene alcohol with a fragrance that can be described as floral, piney, herbal and woody. Found in guaiacum, cypress pine, ginseng, melaleuca, goatweed, incense grass...etc.



## Pesticide Analysis

### PESTICIDE TEST RESULTS - 03/18/2023 ND

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

COMPOUND	LOD/LOQ (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)
Abamectin	0.032 / 0.097	N/A	ND
Acephate	0.006 / 0.018	N/A	ND
Acequinocyl	0.009 / 0.027	N/A	ND
Acetamiprid	0.016 / 0.049	N/A	ND
Aldicarb	0.030 / 0.090	N/A	ND
Allethrin	0.030 / 0.092	N/A	ND
Atrazine	0.006 / 0.019	N/A	ND
Azadirachtin	0.082 / 0.248	N/A	ND
Azoxystrobin	0.003 / 0.009	N/A	ND
Benzovindiflupyr	0.003 / 0.009	N/A	ND
Bifenazate	0.003 / 0.009	N/A	ND
Bifenthrin	0.021 / 0.064	N/A	ND
Boscalid	0.003 / 0.009	N/A	ND
Buprofezin	0.006 / 0.019	N/A	ND
Carbaryl	0.007 / 0.020	N/A	ND
Carbofuran	0.003 / 0.008	N/A	ND
Chlorantraniliprole	0.006 / 0.018	N/A	ND
Chlorfenapyr*	0.005 / 0.015	N/A	ND
Chlorpyrifos	0.013 / 0.039	N/A	ND
Clofentezine	0.003 / 0.009	N/A	ND
Clothianidin	0.008 / 0.025	N/A	ND
Coumaphos	0.003 / 0.010	N/A	ND
Cyantraniliprole	0.003 / 0.010	N/A	ND
Cyfluthrin	0.052 / 0.159	N/A	ND
Cypermethrin	0.051 / 0.153	N/A	ND
Cyprodinil	0.003 / 0.008	N/A	ND
Daminozide	0.026 / 0.077	N/A	ND
Deltamethrin	0.059 / 0.180	N/A	ND
Diazinon	0.006 / 0.017	N/A	ND
Dichlorvos (DDVP)	0.012 / 0.038	N/A	ND
Dimethoate	0.003 / 0.009	N/A	ND
Dimethomorph	0.016 / 0.050	N/A	ND
Dinotefuran	0.010 / 0.030	N/A	ND
Diuron	0.013 / 0.040	N/A	ND
Dodemorph	0.012 / 0.035	N/A	ND
Endosulfan sulfate	0.016 / 0.048	N/A	ND
Endosulfan-α*	0.004 / 0.014	N/A	ND
Endosulfan-β*	0.006 / 0.019	N/A	ND
Ethoprophos	0.003 / 0.009	N/A	ND
Etofenprox	0.014 / 0.042	N/A	ND
Etoxazole	0.007 / 0.020	N/A	ND

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**Pesticide Analysis** *Continued*

**PESTICIDE TEST RESULTS - 03/18/2023** *continued ND*

COMPOUND	LOD/LOQ (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)
Etridiazole*	0.002 / 0.005	N/A	ND
Fenhexamid	0.003 / 0.008	N/A	ND
Fenoxycarb	0.003 / 0.010	N/A	ND
Fenpyroximate	0.007 / 0.020	N/A	ND
Fensulfothion	0.003 / 0.010	N/A	ND
Fenthion	0.003 / 0.010	N/A	ND
Fenvalerate	0.033 / 0.099	N/A	ND
Fipronil	0.003 / 0.010	N/A	ND
Flonicamid	0.007 / 0.022	N/A	ND
Fludioxonil	0.003 / 0.010	N/A	ND
Fluopyram	0.003 / 0.009	N/A	ND
Hexythiazox	0.003 / 0.010	N/A	ND
Imazalil	0.003 / 0.009	N/A	ND
Imidacloprid	0.003 / 0.010	N/A	ND
Iprodione	0.077 / 0.233	N/A	ND
Kinoprene	0.077 / 0.233	N/A	ND
Kresoxim-methyl	0.006 / 0.019	N/A	ND
λ-Cyhalothrin	0.068 / 0.206	N/A	ND
Malathion	0.003 / 0.009	N/A	ND
Metaxyl	0.003 / 0.010	N/A	ND
Methiocarb	0.003 / 0.008	N/A	ND
Methomyl	0.008 / 0.025	N/A	ND
Methoprene	0.172 / 0.521	N/A	ND
Mevinphos	0.008 / 0.024	N/A	ND
MGK-264	0.015 / 0.047	N/A	ND
Myclobutanil	0.003 / 0.009	N/A	ND
Naled	0.021 / 0.064	N/A	ND
Novaluron	0.002 / 0.005	N/A	ND
Oxamyl	0.017 / 0.051	N/A	ND
Paclobutrazol	0.003 / 0.010	N/A	ND
Parathion-methyl	0.016 / 0.050	N/A	ND
Pentachloronitrobenzene*	0.004 / 0.012	N/A	ND
Permethrin	0.056 / 0.168	N/A	ND
Phenothrin	0.016 / 0.047	N/A	ND
Phosmet	0.007 / 0.020	N/A	ND
Piperonyl Butoxide	0.010 / 0.029	N/A	ND
Pirimicarb	0.003 / 0.009	N/A	ND
Prallethrin	0.015 / 0.046	N/A	ND
Propiconazole	0.027 / 0.080	N/A	ND
Propoxur	0.003 / 0.008	N/A	ND
Pyraclostrobin	0.003 / 0.010	N/A	ND

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### Pesticide Analysis *Continued*

#### PESTICIDE TEST RESULTS - 03/18/2023 *continued ND*

COMPOUND	LOD/LOQ (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)
Pyrethrins	0.016 / 0.049	N/A	ND
Pyridaben	0.005 / 0.017	N/A	ND
Pyriproxyfen	0.003 / 0.009	N/A	ND
Resmethrin	0.013 / 0.039	N/A	ND
Spinetoram	0.003 / 0.010	N/A	ND
Spinosad	0.003 / 0.010	N/A	ND
Spirodiclofen	0.031 / 0.093	N/A	ND
Spiromesifen	0.016 / 0.050	N/A	ND
Spirotetramat	0.003 / 0.010	N/A	ND
Spiroxamine	0.020 / 0.062	N/A	ND
Tebuconazole	0.003 / 0.010	N/A	ND
Tebufozide	0.003 / 0.008	N/A	ND
Teflubenzuron	0.007 / 0.022	N/A	ND
Tetrachlorvinphos	0.003 / 0.008	N/A	ND
Tetramethrin	0.021 / 0.063	N/A	ND
Thiabendazole	0.006 / 0.020	N/A	ND
Thiacloprid	0.003 / 0.009	N/A	ND
Thiamethoxam	0.003 / 0.010	N/A	ND
Thiophanate-methyl	0.013 / 0.040	N/A	ND
Trifloxystrobin	0.003 / 0.009	N/A	ND



### Mycotoxin Analysis

#### MYCOTOXIN TEST RESULTS - 03/18/2023 ✓ PASS

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)	ACTION LIMIT (µg/kg)	MEASUREMENT UNCERTAINTY (µg/kg)	RESULT (µg/kg)	RESULT
Aflatoxin B1	1.6 / 5.0	5	N/A	ND	PASS
Aflatoxin B2	1.4 / 4.1		N/A	ND	
Aflatoxin G1	1.6 / 4.9		N/A	ND	
Aflatoxin G2	1.6 / 5.0		N/A	ND	
Total Aflatoxin		20		ND	PASS
Ochratoxin A	1.6 / 5.0	5	N/A	ND	PASS



## Residual Solvents Analysis

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

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

**Total Butanes** = n-Butane + 2-Methylpropane (Isobutane)  
**Total Heptanes** = 2,2-Dimethylpentane (Neoheptane) + 2,3-Dimethylpentane + 2,4-Dimethylpentane + 3,3-Dimethylpentane + 2,2,3-Trimethylbutane (Triptane) + 2-Methylhexane (Isoheptane) + 3-Methylhexane + 3-Ethylpentane + n-Heptane  
**Total Xylenes** = 1,2-Dimethylbenzene (o-Xylene) + 1,3-Dimethylbenzene (m-Xylene) / 1,4-Dimethylbenzene (p-Xylene)

Exclusions<sup>1</sup> see last page

## RESIDUAL SOLVENTS TEST RESULTS - 03/31/2023 ND

COMPOUND	LOD/LOQ (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)
Propane	0.234 / 0.781	N/A	ND
2-Methylpropane (Isobutane)	0.052 / 0.173	N/A	ND
n-Butane	0.019 / 0.063	N/A	ND
Total Butanes			ND
n-Pentane	0.310 / 1.033	N/A	ND
n-Hexane	0.110 / 0.366	N/A	ND
2,2-Dimethylpentane (Neoheptane)	0.493 / 1.642	N/A	ND
2,3-Dimethylpentane	1.009 / 3.365	N/A	ND
2,4-Dimethylpentane	0.737 / 2.458	N/A	ND
3,3-Dimethylpentane	0.198 / 0.660	N/A	ND
2,2,3-Trimethylbutane (Triptane)	0.521 / 1.738	N/A	ND
2-Methylhexane (Isoheptane)	0.610 / 2.034	N/A	ND
3-Methylhexane	0.235 / 0.785	N/A	ND
3-Ethylpentane	0.304 / 1.012	N/A	ND
n-Heptane	13.12 / 43.72	N/A	ND
Total Heptanes			ND
Benzene	0.089 / 0.295	N/A	ND
Toluene	0.115 / 0.382	N/A	ND
1,3-Dimethylbenzene / 1,4-Dimethylbenzene	0.451 / 1.502	N/A	ND
1,2-Dimethylbenzene (o-Xylene)	0.387 / 1.289	N/A	ND
Total Xylenes			ND
Methanol	5.534 / 16.77	N/A	ND
Ethanol	8.984 / 27.23	N/A	ND
2-Propanol (Isopropyl Alcohol)	8.421 / 25.52	N/A	ND
Acetone	9.510 / 28.82	N/A	ND
Ethyl Acetate	1.123 / 3.745	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 - 03/17/2023 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	1.5	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™ Petrifilm™ and plate counts of microbiological contaminants.

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

### MICROBIOLOGY TEST RESULTS (PCR) - 03/18/2023 ✔ PASS

COMPOUND	ACTION LIMIT	RESULT	RESULT
Shiga toxin-producing <i>Escherichia coli</i>	Not Detected in 25g	ND	PASS
<i>Salmonella</i> spp.	Not Detected in 25g	ND	PASS

### MICROBIOLOGY TEST RESULTS (PLATING) - 03/18/2023 ✔ PASS

COMPOUND	ACTION LIMIT (cfu/g)	RESULT (cfu/g)	RESULT
Total Aerobic Bacteria	10000	ND	PASS
Total Yeast and Mold	1000	ND	PASS
Coliforms	100	ND	PASS

### NOTES

COA amended, update to results. Image provided by client.

1. Exclusions: LOD of 53.9 ug/g applied to methanol, LOD of 10.6 ug/g applied to acetone.