



## Hemp Quality Assurance Testing CERTIFICATE OF ANALYSIS

DATE ISSUED 05/05/2025

### SAMPLE DETAILS

**SAMPLE NAME:** R&R Organic Full Spectrum 5000mg Tincture - Unflavored  
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:** Lot 7703  
**Sample ID:** 250328M015  
**Date of Sampling:** 03/28/2025  
**Time of Sampling:** 11:18 a.m.  
**Sampler Name:**  
**Sampler Company:**

**Date Collected:** 03/28/2025  
**Date Received:** 03/28/2025  
**Batch Size:**  
**Sample Size:** 1.0 units  
**Unit Mass:** 30 milliliters per Unit  
**Serving Size:** 1 milliliters per Serving



### CANNABINOID ANALYSIS - SUMMARY

**Total THC:** 37.080 mg/unit

**Total CBD:** 5007.810 mg/unit

**Sum of Cannabinoids:** 5477.940 mg/unit

**Total Cannabinoids:** 5473.410 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:** 0.9635 g/mL

### TERPENOID ANALYSIS - SUMMARY

39 TESTED, TOP 3 HIGHLIGHTED

**Total Terpenoids:** 0.0524%

●  $\alpha$ -Bisabolol 0.233 mg/g ● Guaiol 0.148 mg/g ●  $\beta$ -Caryophyllene 0.094 mg/g

### SAFETY ANALYSIS - SUMMARY

**Mycotoxins:** PASS

**Residual Solvents:** ND

**Heavy Metals:** PASS

**Microbiology (PCR):** PASS

**Microbiology (Plating):** 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:** 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),  $\mu\text{g/g}$  = ppm,  $\mu\text{g/kg}$  = ppb, too numerous to count >250 cfu/plate (TNTC), colony-forming unit (cfu)

Amendment to Certificate of Analysis 250328M015-004

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ISO/IES 17025:2017 PJA Accreditation Number 87168



## Hemp Quality Assurance Testing CERTIFICATE OF ANALYSIS

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### Cannabinoide Analysis

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

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

**TOTAL THC:** 37.080 mg/unit

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

**TOTAL CBD:** 5007.810 mg/unit

Total CBD (CBD+0.877\*CBDa)

**TOTAL CANNABINOIDS:** 5473.410 mg/unit

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

**TOTAL CBG:** 70.260 mg/unit

Total CBG (CBG+0.877\*CBGa)

**TOTAL THCV:** ND

Total THCV (THCV+0.877\*THCVa)

**TOTAL CBC:** 215.730 mg/unit

Total CBC (CBC+0.877\*CBCa)

**TOTAL CBDV:** 50.040 mg/unit

Total CBDV (CBDV+0.877\*CBDVa)

### CANNABINOID TEST RESULTS - 04/29/2025

COMPOUND	LOD/LOQ (mg/mL)	MEASUREMENT UNCERTAINTY (mg/mL)	RESULT (mg/mL)	RESULT (%)
CBD	0.004 / 0.011	±6.1880	165.898	17.2183
CBC	0.003 / 0.010	±0.2300	7.142	0.7413
CBN	0.001 / 0.007	±0.0785	2.734	0.2838
CBG	0.002 / 0.006	±0.1136	2.342	0.2431
CBDV	0.002 / 0.012	±0.0681	1.668	0.1731
$\Delta^9$ -THC	0.002 / 0.014	±0.0679	1.236	0.1283
CBDa	0.001 / 0.026	±0.0333	1.173	0.1217
CBL	0.003 / 0.010	±0.0129	0.349	0.0362
CBCa	0.001 / 0.015	±0.0021	0.056	0.0058
$\Delta^8$ -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
SUM OF CANNABINOIDS			182.598 mg/mL	18.9515%

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

$\Delta^9$ -THC per Unit	37.080 mg/unit
$\Delta^9$ -THC per Serving	1.236 mg/serving
Total THC per Unit	37.080 mg/unit
Total THC per Serving	1.236 mg/serving
CBD per Unit	4976.940 mg/unit
CBD per Serving	165.898 mg/serving
Total CBD per Unit	5007.810 mg/unit
Total CBD per Serving	166.927 mg/serving
Sum of Cannabinoids per Unit	5477.940 mg/unit
Sum of Cannabinoids per Serving	182.598 mg/serving
Total Cannabinoids per Unit	5473.410 mg/unit
Total Cannabinoids per Serving	182.447 mg/serving

### DENSITY TEST RESULT

0.9635 g/mL

Tested 04/29/2025

**Method:** QSP 7870 - Sample Preparation

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ISO/IES 17025:2017 PJA Accreditation Number 87168



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Terpenoid Analysis

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

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

1  $\alpha$ -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.

2 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.

3  $\beta$ -Caryophyllene

A sesquiterpene with a fragrance that can be described as spicy, woody, dry, dusty and mildly sweet. It was one of the first organic compounds to fully synthesized in a laboratory and plays a role in the endocannabinoid system as it is a functional CB<sub>2</sub> receptor agonist. Found in black pepper, clove, hops, rosemary, black-jack, perilla, spicebush, Indian pennywort, celery, frankincense, vitex, parsley, marigold, tamarind...etc.

TERPENOID TEST RESULTS - 03/31/2025

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
$\alpha$ -Bisabolol	0.008 / 0.026	±0.0097	0.233	0.0233
Guaiol	0.009 / 0.030	±0.0054	0.148	0.0148
$\beta$ -Caryophyllene	0.004 / 0.012	±0.0026	0.094	0.0094
Caryophyllene Oxide	0.010 / 0.033	±0.0018	0.049	0.0049
$\alpha$ -Humulene	0.009 / 0.180	N/A	<LOQ	<LOQ
Borneol	0.005 / 0.016	N/A	<LOQ	<LOQ
Fenchol	0.010 / 0.036	N/A	<LOQ	<LOQ
Nerolidol	0.006 / 0.021	N/A	<LOQ	<LOQ
$\alpha$ -Cedrene	0.005 / 0.016	N/A	ND	ND
$\alpha$ -Phellandrene	0.006 / 0.036	N/A	ND	ND
$\alpha$ -Pinene	0.005 / 0.036	N/A	ND	ND
$\alpha$ -Terpinene	0.005 / 0.017	N/A	ND	ND
$\beta$ -Ocimene	0.006 / 0.025	N/A	ND	ND
$\beta$ -Pinene	0.004 / 0.014	N/A	ND	ND
Camphene	0.005 / 0.015	N/A	ND	ND
Camphor	0.006 / 0.036	N/A	ND	ND
Cedrol	0.008 / 0.027	N/A	ND	ND
Citronellol	0.003 / 0.036	N/A	ND	ND
$\Delta^3$ -Carene	0.005 / 0.018	N/A	ND	ND
Eucalyptol	0.006 / 0.018	N/A	ND	ND
Fenchone	0.009 / 0.036	N/A	ND	ND
$\gamma$ -Terpinene	0.006 / 0.018	N/A	ND	ND
Geraniol	0.002 / 0.036	N/A	ND	ND
Geranyl Acetate	0.004 / 0.036	N/A	ND	ND
Isoborneol	0.004 / 0.012	N/A	ND	ND
Isopulegol	0.005 / 0.036	N/A	ND	ND
Limonene	0.005 / 0.036	N/A	ND	ND
Linalool	0.009 / 0.036	N/A	ND	ND
Menthol	0.008 / 0.025	N/A	ND	ND
Myrcene	0.008 / 0.025	N/A	ND	ND
Nerol	0.003 / 0.036	N/A	ND	ND
p-Cymene	0.005 / 0.016	N/A	ND	ND
Pulegone	0.003 / 0.011	N/A	ND	ND
Sabinene	0.004 / 0.014	N/A	ND	ND
Sabinene Hydrate	0.006 / 0.036	N/A	ND	ND
Terpineol	0.009 / 0.031	N/A	ND	ND
Terpinolene	0.008 / 0.036	N/A	ND	ND
trans- $\beta$ -Farnesene	0.008 / 0.025	N/A	ND	ND
Valencene	0.009 / 0.180	N/A	ND	ND
TOTAL TERPENOIDS			0.524 mg/g	0.0524%



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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 - 04/01/2025 PASS

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	
Ochratoxin A	1.6 / 5.0	5	N/A	ND	PASS
Total Aflatoxin		20		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

RESIDUAL SOLVENTS TEST RESULTS - 04/01/2025 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 (Neohexane)	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 (m-Xylene) / 1,4-Dimethylbenzene (p-Xylene)	0.451 / 1.502	N/A	ND
1,2-Dimethylbenzene (o-Xylene)	0.387 / 1.289	N/A	ND
Total Xylenes			ND
Methanol	53.92 / 163.4	N/A	ND
Ethanol	8.984 / 27.23	N/A	ND
2-Propanol (Isopropyl Alcohol)	8.421 / 25.52	N/A	ND
Acetone	10.59 / 32.08	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 - 03/29/2025 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

MICROBIOLOGY TEST RESULTS (PCR) - 04/01/2025 PASS

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

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

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

MICROBIOLOGY TEST RESULTS (PLATING) - 04/01/2025 PASS

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

NOTES  
Reason for Amendment: Photo Update Sample serving mass provided by client. Sample unit mass provided by client.



12423 NE Whitaker Way  
Portland, OR 97230  
503-254-1794

**Report Number:** 25-004252/D002.R000  
**Report Date:** 04/25/2025  
**ORELAP#:** OR100028  
**Purchase Order:**  
**Received:** 04/21/25 16:21

**Customer:** R&R CBD  
**Product identity:** Lot 7703  
**Metrc ID:**  
**Metrc Source ID:**  
**Laboratory ID:** 25-004252-0002

### Summary

#### Pesticides:

All analytes passing and less than LOQ.



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**Purchase Order:**  
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**Customer:** R&R CBD

**Product identity:** Lot 7703  
**Metrc ID:**  
**Metrc Source ID:**  
**Material:** Cannabinoid Tincture  
**Sample Date:**  
**Laboratory ID:** 25-004252-0002  
**Evidence of Cooling:** No  
**Temp:** 21.8 °C  
**Lot #:** drum 2

### Sample Results



12423 NE Whitaker Way  
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Report Date: 04/25/2025  
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Purchase Order:  
Received: 04/21/25 16:21

Pesticides					Method: AOAC 2007.01 & EN 15662 (mod)	Units mg/kg	Batch 2502934	Analyze 04/23/25 02:43 PM				
Analyte	Result	Limits	LOQ	Status	Notes	Analyte	Result	Limits	LOQ	Status	Notes	
Abamectin	< LOQ	0.070				Acephate	< LOQ	0.020				
Acequinocyl	< LOQ	0.025				Acetamiprid	< LOQ	0.050				
Aldicarb	< LOQ	0.100				Allethrin	< LOQ	0.100				
Atrazine	< LOQ	0.025				Azadirachtin	< LOQ	0.500				
Azoxystrobin	< LOQ	0.010				Benzovindiflupyr	< LOQ	0.010				
Bifenazate	< LOQ	0.010				Bifenthrin	< LOQ	0.100				
Boscalid	< LOQ	0.010				Buprofezin	< LOQ	0.010				
Carbaryl	< LOQ	0.025				Carbofuran	< LOQ	0.010				
Chlorantraniliprole	< LOQ	0.010				Chlorfenvinphos	< LOQ	0.100				
Chlorpyrifos-ethyl	< LOQ	0.010				Clofentezine	< LOQ	0.010				
Clothianidin	< LOQ	0.025				Coumaphos	< LOQ	0.010				
Cyfluthrin	< LOQ	0.010				Cyfluthrin (sum )	< LOQ	0.200				
Cyhalothrin,lambda	< LOQ	0.250				Cypermethrin and	< LOQ	0.300				
Cyprodinil	< LOQ	0.010				Daminozide	< LOQ	0.050				
Deltamethrin	< LOQ	0.500				Diazinon	< LOQ	0.010				
Dichlorvos	< LOQ	0.050				Dimethoate	< LOQ	0.010				
Dimethomorph	< LOQ	0.050				Dinotefuran	< LOQ	0.050				
Diuron	< LOQ	0.125				Dodemorph	< LOQ	0.050				
Endosulfan I (alpha)	< LOQ	0.050				Endosulfan II (beta)	< LOQ	0.050				
Endosulfan sulfate	< LOQ	0.050				Ethoprophos	< LOQ	0.010				
Etofenprox	< LOQ	0.010				Etoxazole	< LOQ	0.010				
Etridiazole	< LOQ	0.030				Fenhexamid	< LOQ	0.100				
Fenoxycarb	< LOQ	0.010				Fenpyroximate	< LOQ	0.020				
Fensulfthion	< LOQ	0.010				Fenthion	< LOQ	0.010				
Fenvalerate	< LOQ	0.200				Fipronil	< LOQ	0.010				
Flonicamid	< LOQ	0.025				Fludioxonil	< LOQ	0.010				
Fluopyram	< LOQ	0.010				Hexythiazox	< LOQ	0.010				
Imazalil	< LOQ	0.010				Imidacloprid	< LOQ	0.010				
Iprodione	< LOQ	0.500				Kinoprene	< LOQ	0.200				
Kresoxim-methyl	< LOQ	0.010				Malathion	< LOQ	0.010				
Metaxyl	< LOQ	0.010				Methiocarb	< LOQ	0.010				
Methomyl	< LOQ	0.025				Methoprene	< LOQ	1.00				
Mevinphos	< LOQ	0.025				MGK-264	< LOQ	0.050				
Myclobutanil	< LOQ	0.010				Naled	< LOQ	0.100				
Novaluron	< LOQ	0.025				Oxamyl	< LOQ	0.200				
Paclobutrazole	< LOQ	0.010				Parathion-methyl	< LOQ	0.030				
Permethrin	< LOQ	0.040				Phenothrin	< LOQ	0.025				
Phosmet	< LOQ	0.010				Piperonyl butoxide	< LOQ	0.200				
Pirimicarb	< LOQ	0.010				Prallethrin	< LOQ	0.050				
Propiconazole	< LOQ	0.010				Propoxur	< LOQ	0.010				
Pyraclostrobin	< LOQ	0.010				Pyrethrins (total)	< LOQ	0.025				
Pyridaben	< LOQ	0.020				Pyriproxyfen	< LOQ	0.010				
Quintozene (PCNB)	< LOQ	0.020				Resmethrin	< LOQ	0.020				
Spinetoram	< LOQ	0.010				Spinosad	< LOQ	0.010				
Spirodiclofen	< LOQ	0.250				Spiromesifen	< LOQ	0.030				
Spirotetramat	< LOQ	0.010				Spiroxamine	< LOQ	0.010				

Pesticides					Method: AOAC 2007.01 & EN 15662 (mod)	Units mg/kg	Batch 2502934	Analyze 04/23/25 02:43 PM				
Analyte	Result	Limits	LOQ	Status	Notes	Analyte	Result	Limits	LOQ	Status	Notes	
Tebuconazole	< LOQ	0.010				Tebufenozide	< LOQ	0.010				
Teflubenzuron	< LOQ	0.025				Tetrachlorvinphos	< LOQ	0.010				
Tetramethrin	< LOQ	0.050				Thiabendazole	< LOQ	0.020				
Thiacloprid	< LOQ	0.010				Thiamethoxam	< LOQ	0.010				
Thiophanate-methyl	< LOQ	0.030				Trifloxystrobin	< LOQ	0.010				



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**Abbreviations**

**Limits:** Action Levels per OAR-333-007-0400, OAR-333-007-0210, OAR-333-007-0220, CCR title 16-division 42, BCC-section 5723

**Limit(s) of Quantitation (LOQ):** The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.

**Units of Measure**

mg/kg = Milligram per kilogram = parts per million (ppm)

=

% wt =  $\mu\text{g/g}$  divided by 10,000