

CERTIFICATE OF ANALYSIS

DATE ISSUED 05/15/2025

SAMPLE DETAILS

SAMPLE NAME: R&R Organic Full Spectrum 1000mg Tincture - Unflavored - Organic

Infused, Colorado Infused

CULTIVATOR / MANUFACTURER

Business Name: License Number:

Address:

SAMPLE DETAIL

Batch Number: Lot: 1873 Sample ID: 250328M014 Date of Sampling: 03/28/2025 Time of Sampling: 11:18 a.m.

Sampler Name:

Sampler Company:

DISTRIBUTOR / TESTED FOR

Business Name: R&R CBD

License Number:

Address:

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



Scan QR code to verify authenticity of results.

CANNABINOID ANALYSIS - SUMMARY

Total THC: 39.810 mg/unit

Total CBD: 1116.180 mg/unit

Sum of Cannabinoids: 1237.980 mg/unit

Total Cannabinoids: 1236.690 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 = Δ^9 -THC + (THCa (0.877)) Total CBD = CBD + (CBDa (0.877))

Sum of Cannabinoids = Δ^9 -THC + THCa + CBD + CBDa + CBG + CBGa + THCV + THCVa + CBC + CBCa + CBDV + CBDVa + Δ8-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) + Δ^8 -THC + CBL + CBN

Density: 0.9371 g/mL

TERPENOID ANALYSIS - SUMMARY

39 TESTED, TOP 3 HIGHLIGHTED

Total Terpenoids: 0.0618%

 α -Bisabolol 0.250 mg/g Guaiol 0.227 mg/g β -Caryophyllene 0.141 mg/g



SAFETY ANALYSIS - SUMMARY

Pesticides: ND Mycotoxins: PASS Residual Solvents: PASS Heavy Metals: OPASS

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

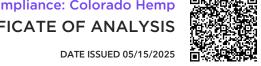
References: limit of detection (LOD), limit of quantification (LOQ), not detected (ND), not tested (NT). $\mu g/g = ppm$, $\mu g/kg = ppb$, too numerous to count >250 cfu/plate (TNTC), colony-forming unit (cfu)

Approved by: Josh Wurzer Title: Chief Compliance Officer Date: 05/15/2025

Amendment to Certificate of Analysis 250328M014-004



CERTIFICATE OF ANALYSIS





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

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

TOTAL THC: 39.810 mg/unit Total THC (Δ^9 -THC+0.877*THCa)

TOTAL CBD: 1116.180 mg/unit

Total CBD (CBD+0.877*CBDa)

TOTAL CANNABINOIDS: 1236.690 mg/unit

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

TOTAL CBG: 11.700 mg/unit

Total CBG (CBG+0.877*CBGa)

TOTAL THCV: ND

Total THCV (THCV+0.877*THCVa)

TOTAL CBC: 50.040 mg/unit

Total CBC (CBC+0.877*CBCa)

TOTAL CBDV: 10.770 mg/unit

Total CBDV (CBDV+0.877*CBDVa)

CANNABINOID TEST RESULTS - 04/02/2025

	COMPOUND	LOD/LOQ (mg/mL)	MEASUREMENT UNCERTAINTY (mg/mL)	RESULT (mg/mL)	RESULT (%)
Ī	CBD	0.004 / 0.011	±1.3764	36.900	3.9377
Ī	СВС	0.003 / 0.010	±0.0537	1.668	0.1780
	Δ^9 -THC	0.002/0.014	±0.0729	1.327	0.1416
	CBG	0.002 / 0.006	±0.0189	0.390	0.0416
Ī	CBDV	0.002/0.012	±0.0146	0.359	0.0383
	CBDa	0.001 / 0.026	±0.0099	0.349	0.0372
	CBN	0.001 / 0.007	±0.0058	0.202	0.0216
Ī	CBL	0.003 / 0.010	±0.0026	0.071	0.0076
	Δ^8 -THC	0.01 / 0.02	N/A	ND	ND
it	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
Ī	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
	SUM OF CANNA	BINOIDS		41.266 mg/mL	4.4036%

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

Δ^9 -THC per Unit	39.810 mg/unit
Δ^9 -THC per Serving	1.327 mg/serving
Total THC per Unit	39.810 mg/unit
Total THC per Serving	1.327 mg/serving
CBD per Unit	1107.000 mg/unit
CBD per Serving	36.900 mg/serving
Total CBD per Unit	1116.180 mg/unit
Total CBD per Serving	37.206 mg/serving
Sum of Cannabinoids per Unit	1237.980 mg/unit
Sum of Cannabinoids per Serving	41.266 mg/serving
Total Cannabinoids per Unit	1236.690 mg/unit
Total Cannabinoids per Serving	41.223 mg/serving

DENSITY TEST RESULT

0.9371 g/mL

Tested 04/02/2025

Method: QSP 7870 - Sample Preparation



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Terpenoid Analysis

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

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



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.



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.



β -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 CB₂ 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 (%)
α-Bisabolol	0.008 / 0.026	±0.0104	0.250	0.0250
Guaiol	0.009 / 0.030	±0.0083	0.227	0.0227
β-Caryophyllene	0.004 / 0.012	±0.0039	0.141	0.0141
α-Humulene	0.009 / 0.180	N/A	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
Fenchol	0.010 / 0.036	N/A	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
Nerolidol	0.006 / 0.021	N/A	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
α-Cedrene	0.005 / 0.016	N/A	ND	ND
α-Phellandrene	0.006 / 0.036	N/A	ND	ND
α-Pinene	0.005 / 0.036	N/A	ND	ND
α-Terpinene	0.005 / 0.017	N/A	ND	ND
β-Ocimene	0.006 / 0.025	N/A	ND	ND
β-Pinene	0.004 / 0.014	N/A	ND	ND
Borneol	0.005 / 0.016	N/A	ND	ND
Camphene	0.005 / 0.015	N/A	ND	ND
Camphor	0.006 / 0.036	N/A	ND	ND
Caryophyllene Oxide	0.010 / 0.033	N/A	ND	ND
Cedrol	0.008 / 0.027	N/A	ND	ND
Citronellol	0.003 / 0.036	N/A	ND	ND
Δ^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
γ-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	0.00 <mark>5 / 0.036</mark>	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-β-Farnesene	0.008 / 0.025	N/A	ND	ND
Valencene	0.009 / 0.180	N/A	ND	ND
TOTAL TERPENOIDS			0.618 mg/g	0.0618%



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Pesticide Analysis

Pesticide and plant growth regulator analysis utilizing high-performance liquid chromatography-mass spectrometry (HPLC-MS) or gas chromatography-mass spectrometry (GC-MS). ‡Analytes part of our California Select Panel.

*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 - 04/01/2025 ND

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. <mark>010</mark>	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 - 04/01/2025 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
lmazalil	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
Metalaxyl	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 / <mark>0.521</mark>	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
Pentachloronitro- benzene (Quintozene)*	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 - 04/01/2025 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
Tebufenozide	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 analysis utilizing high-performance liquid chromatography-mass spectrometry (HPLC-MS).

Method: QSP 1212 - Analysis of Pesticides and Mycotoxins by

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 / <mark>5.0</mark>	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



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Residual Solvents Analysis

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

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

Total Heptanes = 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)

RESIDUAL SOLVENTS TEST RESULTS - 04/01/2025 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (μg/g)	RESULT
Propane	0.234 / 0.781	1000	N/A	ND	PASS
2-Methylpropane (Isobutane)	0.052 / 0.173		N/A	ND	
n-Butane	0.019/0.063		±0.0086	0.208	
Total Butanes		1000		0.208	PASS
n-Pentane	0.310 / 1.033	1000	N/A	ND	PASS
n-Hexane	0.110 / 0.366	60	N/A	ND	PASS
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		1000		ND	PASS
Benzene	0.089 / 0.295	2	N/A	ND	PASS
Toluene	0.115/0.382	180	N/A	ND	PASS
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		430		ND	PASS
Methanol	53.92 / 163.4	600	N/A	ND	PASS
Ethanol	8.984/27.23	1000	N/A	ND	PASS
2-Propanol (Isopropyl Alcohol)	8.421/25.52	1000	N/A	ND	PASS
Acetone	10.59 / 32.08	1000	N/A	<loq< td=""><td>PASS</td></loq<>	PASS
Ethyl Acetate	1.123 / 3.745	1000	N/A	ND	PASS



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	LO <mark>D/LOQ</mark> (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



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Microbiology Analysis

PCR AND PLATING

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

Method: QSP 61517 - Analysis of Microbiological

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

Method: QSP 6794 - Plating with $3M^{TM}$ PetrifilmTM

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

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: Order Detail Information Change