

Hemp Quality Assurance Testing

CERTIFICATE OF ANALYSIS

DATE ISSUED 04/10/2025

SAMPLE DETAILS

SAMPLE NAME: R&R Sleep Gummy 45mg CBD / 5mg CBN Full-Spectrum Infused Gummy

Infused, Solid Edible

CULTIVATOR / MANUFACTURER

Business Name: License Number:

Address:

SAMPLE DETAIL

Batch Number: Lot 2203S Sample ID: 250331Q048

DISTRIBUTOR / TESTED FOR

Business Name: R&R CBD

License Number:

Address:

Date Collected: 03/31/2025 Date Received: 03/31/2025

Batch Size:

Sample Size: 10.0 units Unit Mass: 9 grams per Unit Serving Size: 9 grams per Serving



Scan QR code to verify authenticity of results.

CANNABINOID ANALYSIS - SUMMARY

Total THC: 0.324 mg/unit

Total CBD: 48.618 mg/unit

Sum of Cannabinoids: 55.521 mg/unit

Total Cannabinoids: 55.521 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

TERPENOID ANALYSIS - SUMMARY

39 TESTED, TOP 3 HIGHLIGHTED

Total Terpenoids: ND

SAFETY ANALYSIS - SUMMARY

 Δ^9 -THC per Unit: \bigcirc PASS

 Δ^9 -THC per Serving: \bigcirc PASS

Pesticides: PASS

Mycotoxins: PASS

Residual Solvents: PASS

Heavy Metals: PASS

Microbiology (PCR): PASS

Microbiology (Plating): ND

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), $\mu g/g = ppm$, $\mu g/kg = ppb$, too numerous to count >250 cfu/plate (TNTC), colony-forming unit (cfu)

LOC verified by: Daniel Hardwick Job Title: Technical Lead Date: 04/10/2025

Approved by: Josh Wurzer Title: Chief Compliance Officer Date: 04/10/2025

Amendment to Certificate of Analysis 250331Q048-003



DATE ISSUED 04/10/2025





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: 0.324 mg/unit Total THC (Δ⁹-THC+0.877*THCa)

TOTAL CBD: 48.618 mg/unit

Total CBD (CBD+0.877*CBDa)

TOTAL CANNABINOIDS: 55.521 mg/unit

 $\begin{array}{l} Total \ Cannabinoids \ (Total \ THC) + (Total \ CBD) + \\ (Total \ CBG) + (Total \ THCV) + (Total \ CBC) + \\ (Total \ CBDV) + \Delta^8 - THC + CBL + CBN \end{array}$

TOTAL CBG: 0.126 mg/unit

Total CBG (CBG+0.877*CBGa)

TOTAL THCV: ND

Total THCV (THCV+0.877*THCVa)

TOTAL CBC: 0.567 mg/unit

Total CBC (CBC+0.877*CBCa)

TOTAL CBDV: 0.315 mg/unit

Total CBDV (CBDV+0.877*CBDVa)

CANNABINOID TEST RESULTS - 04/01/2025

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
CBD	0.004 / 0.011	±0.2015	5.402	0.5402
CBN	0.001 / 0.007	±0.0178	0.619	0.0619
СВС	0.003 / 0.010	±0.0020	0.063	0.0063
Δ ⁹ -THC	0.002 / 0.014	±0.0020	0.036	0.0036
CBDV	0.002 / 0.012	±0.0014	0.035	0.0035
CBG	0.002 / 0.006	±0.0007	0.014	0.0014
CBDa	0.001 / 0.026	N/A	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
Δ^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
CBL	0.003 / 0.010	N/A	ND	ND
CBCa	0.001 / 0.015	N/A	ND	ND
SUM OF CANNA	BINOIDS		6.169 mg/g	0.6169%

Unit Mass: 9 grams per Unit / Serving Size: 9 grams per Serving

Δ^9 -THC per Unit	110 per-package limit	0.324 mg/unit PASS
Δ ⁹ -THC per Serving		0.324 mg/serving PASS
Total THC per Unit		0.324 mg/unit
Total THC per Serving		0.324 mg/serving
CBD per Unit		48.618 mg/unit
CBD per Serving	48.618 mg/serving	
Total CBD per Unit	48.618 mg/unit	
Total CBD per Serving		48.618 mg/serving
Sum of Cannabinoids per Unit	55.521 mg/unit	
Sum of Cannabinoids per Serving	55.521 mg/serving	
Total Cannabinoids per Unit		55.521 mg/unit
Total Cannabinoids per Serving		55.521 mg/serving



Hemp Quality Assurance Testing CERTIFICATE OF ANALYSIS

DATE ISSUED 04/10/2025





Terpenoid Analysis

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

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

TERPENOID TEST RESULTS - 04/04/2025

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
α-Bisabolol	0.008 / 0.026	N/A	ND	ND
α -Cedrene	0.005 / 0.016	N/A	ND	ND
α-Humulene	0.009 / 0.180	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-Caryophyllene	0.004 / 0.012	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
Fenchol	0.010 / 0.036	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
Guaiol	0.009/0.030	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
Nerolidol	0.006 / 0.021	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	3.5577 0.100	1 1// 1	ND ND	ND









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 - 04/05/2025 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (μg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (μg/g)	RESULT
Abamectin	0.032 / 0.097	0.3	N/A	ND	PASS
Acephate	0.006 / 0.018	5	N/A	ND	PASS
Acequinocyl	0.009 / 0.027	4	N/A	ND	PASS
Acetamiprid	0.016 / 0.049	5	N/A	ND	PASS
Aldicarb	0.030 / 0.090	≥LOD	N/A	ND	PASS
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	40	N/A	ND	PASS
Benzovindiflupyr	0.003 / 0.009		N/A	ND	
Bifenazate	0.003 / 0.009	5	N/A	ND	PASS
Bifenthrin	0.021 / 0.064	0.5	N/A	ND	PASS
Boscalid	0.003 / 0.009	10	N/A	ND	PASS
Buprofezin [‡]	0.006 / 0.019		N/A	ND	
Carbaryl	0.007 / 0.020	0.5	N/A	ND	PASS
Carbofuran	0.003 / 0.008	≥LOD	N/A	ND	PASS
Chlorantraniliprole	0.006 / 0.018	40	N/A	ND	PASS
Chlorfenapyr*	0.005 / 0.015	≥ LOD	N/A	ND	PASS
Chlorpyrifos	0.013 / 0.039	≥LOD	N/A	ND	PASS
Clofentezine	0.003 / 0.009	0.5	N/A	ND	PASS
Clothianidin	0.008 / 0.025		N/A	ND	
Coumaphos	0.003 / 0.010	≥LOD	N/A	ND	PASS
Cyantraniliprole	0.003 / 0.010		N/A	ND	
Cyfluthrin	0.052 / 0.159	1	N/A	ND	PASS
Cypermethrin	0.05 <mark>1/0.153</mark>	1	N/A	ND	PASS
Cyprodinil [‡]	0.0 <mark>03/0.008</mark>		N/A	ND	
Daminozide	0.026 / 0.077	≥ LOD	N/A	ND	PASS
Deltamethrin	0.059 / 0.180		N/A	ND	
Diazinon	0.006 / 0.017	0.2	N/A	ND	PASS
Dichlorvos (DDVP)	0.012 / 0.038	≥ LOD	N/A	ND	PASS
Dimethoate	0.003 / 0.009	≥ LOD	N/A	ND	PASS
Dimethomorph	0.016 / 0.050	20	N/A	ND	PASS
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	≥LOD	N/A	ND	PASS
Etofenprox	0.014 / 0.042	≥LOD	N/A	ND	PASS
Etoxazole	0.007 / 0.020	1.5	N/A	ND	PASS

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Pesticide Analysis Continued

PESTICIDE TEST RESULTS - 04/05/2025 continued **⊘** PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (μg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (μg/g)	RESULT
Etridiazole*	0.002 / 0.005		N/A	ND	
Fenhexamid	0.003 / 0.008	10	N/A	ND	PASS
Fenoxycarb	0.003/0.010	≥LOD	N/A	ND	PASS
Fenpyroximate	0.007 / 0.020	2	N/A	ND	PASS
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	≥LOD	N/A	ND	PASS
Flonicamid	0.007 / 0.022	2	N/A	ND	PASS
Fludioxonil	0.003/0.010	30	N/A	ND	PASS
Fluopyram [‡]	0.003 / 0.009		N/A	ND	
Hexythiazox	0.003/0.010	2	N/A	ND	PASS
lmazalil	0.003 / 0.009	≥LOD	N/A	ND	PASS
Imidacloprid	0.003 / 0.010	3	N/A	ND	PASS
Iprodione	0.077 / 0.233		N/A	ND	
Kinoprene	0.077 / 0.233		N/A	ND	
Kresoxim-methyl	0.006 / 0.019	1	N/A	ND	PASS
λ-Cyhalothrin	0.068 / 0.206		N/A	ND	
Malathion	0.003 / 0.009	5	N/A	ND	PASS
Metalaxyl	0.003 / 0.010	15	N/A	ND	PASS
Methiocarb	0.003 / 0.008	≥LOD	N/A	ND	PASS
Methomyl	0.008 / 0.025	0.1	N/A	ND	PASS
Methoprene [‡]	0.172 / 0.521		N/A	ND	
Mevinphos	0.008/0.024	≥LOD	N/A	ND	PASS
MGK-264	0.015/0.047		N/A	ND	
Myclobutanil	0.003/0.009	9	N/A	ND	PASS
Naled	0.021/0.064	0.5	N/A	ND	PASS
Novaluron	0.002 / 0.005		N/A	ND	
Oxamyl	0.017 / 0.051	0.2	N/A	ND	PASS
Paclobutrazol	0.003 / 0.010	≥LOD	N/A	ND	PASS
Parathion-methyl	0.016 / 0.050	≥LOD	N/A	ND	PASS
Pentachloronitro- benzene (Quintozene)*	0.004/0.012	0.2	N/A	ND	PASS
Permethrin	0.056 / 0.168	20	N/A	ND	PASS
Phenothrin	0.016 / 0.047		N/A	ND	
Phosmet	0.007 / 0.020	0.2	N/A	ND	PASS
Piperonyl Butoxide	0.010/0.029	8	N/A	ND	PASS
Pirimicarb	0.003 / 0.009		N/A	ND	
Prallethrin	0.015 / 0.046	0.4	N/A	ND	PASS
Propiconazole	0.027 / 0.080	20	N/A	ND	PASS
Propoxur	0.003 / 0.008	≥LOD	N/A	ND	PASS
Pyraclostrobin	0.003 / 0.010		N/A	ND	

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Pesticide Analysis Continued

PESTICIDE TEST RESULTS - 04/05/2025 continued PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (μg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (µg/g)	RESULT
Pyrethrins	0.016/0.049	1	N/A	ND	PASS
Pyridaben	0.005/0.017	3	N/A	ND	PASS
Pyriproxyfen	0.003/0.009		N/A	ND	
Resmethrin	0.013/0.039		N/A	ND	
Spinetoram	0.003/0.010	3	N/A	ND	PASS
Spinosad	0.003/0.010	3	N/A	ND	PASS
Spirodiclofen	0.031/0.093		N/A	ND	
Spiromesifen	0.016 / 0.050	12	N/A	ND	PASS
Spirotetramat	0.003/0.010	13	N/A	ND	PASS
Spiroxamine	0.020 / 0.062	≥LOD	N/A	ND	PASS
Tebuconazole	0.003/0.010	2	N/A	ND	PASS
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	≥LOD	N/A	ND	PASS
Thiamethoxam	0.003/0.010	4.5	N/A	ND	PASS
Thiophanate-methyl	0.013 / 0.040		N/A	ND	
Trifloxystrobin	0.003 / 0.009	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 - 04/05/2025 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>		N/A	ND	
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	20	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

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 - 04/05/2025 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (µg/g)	RESULT
Propane	0.234 / 0.781	5000	N/A	ND	PASS
2-Methylpropane (Isobutane)	0.052/0.173		N/A	ND	
n-Butane	0.019 / 0.063	5000	N/A	ND	PASS
Total Butanes				ND	
n-Pentane	0.310 / 1.033	5000	N/A	ND	PASS
n-Hexane	0.110 / 0.366	290	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	5000	N/A	ND	PASS
Total Heptanes				ND	
Benzene	0.089 / 0.295	1	N/A	ND	PASS
Toluene	0.115 / 0.382	890	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		2170		ND	PASS
Methanol	53.92 / 163.4	3000	N/A	ND	PASS
Ethanol	8.984/27.23	5000	N/A	ND	PASS
2-Propanol (Isopropyl Alcohol)	8.421 / 25.52	5000	N/A	ND	PASS
Acetone	10.59 / 32.08	5000	N/A	ND	PASS
Ethyl Acetate	1.123 / 3.745	5000	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 - 04/04/2025 **⊘** 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	3	N/A	ND	PASS





DATE ISSUED 04/10/2025





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

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

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

COMPOUND	ACTION LIMIT RESULT		RESULT
Salmonella spp.	Not Detected in 1g	ND	PASS
Shiga toxin-producing Escherichia coli	Not Detected in 1g	ND	PASS

MICROBIOLOGY TEST RESULTS (PLATING) - 04/04/2025 ND

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

NOTES

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