Hemp Quality Assurance Testing

CERTIFICATE OF ANALYSIS

DATE ISSUED 02/21/2022

SAMPLE NAME: A00000105

Infused, Hemp Infused

CULTIVATOR / MANUFACTURER

Business Name:
License Number:
Address:

DISTRIBUTOR / TESTED FOR

Business Name: New York Hemp Oil
License Number:
Address:

SAMPLE DETAIL

Batch Number:
Sample ID: 220217U001

Date Collected: 02/17/2022
Date Received: 02/17/2022
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: 20.220 mg/unit

Total CBD: 646.170 mg/unit

Sum of Cannabinoids: 699.420 mg/unit

Total Cannabinoids: 699.420 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 + Δ^8-THC + CBL + CBN
Total Cannabinoids = (Δ^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: 0.948 g/mL

TERPENOID ANALYSIS - SUMMARY

39 TESTED, TOP 3 HIGHLIGHTED

Total Terpenoids: 0.0503%

β-Caryophyllene 0.228 mg/g | α-Bisabolol 0.110 mg/g | α-Humulene 0.085 mg/g

SAFETY ANALYSIS - SUMMARY

Pesticides: PASS
Residual Solvents: PASS
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: Action Limits used in this report are a compilation of guidance from state regulatory agencies in all states except Alaska. Action limits for required tests are the lower of any conflicting state regulations.

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: Randi Vuong
Date: 02/21/2022

Approved by: Josh Wurzer, President
Date: 02/21/2022

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: 20.220 mg/unit

Total THC (Δ^9-THC+0.877*THCa)

TOTAL CBD: 646.170 mg/unit

Total CBD (CBD+0.877*CBDa)

TOTAL CANNABINOIDS: 699.420 mg/unit

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

TOTAL CBG: 8.700 mg/unit

Total CBG (CBG+0.877*CBGa)

TOTAL THCV: ND

Total THCV (THCV+0.877*THCVa)

TOTAL CBC: 19.020 mg/unit

Total CBC (CBC+0.877*CBCa)

TOTAL CBDV: 3.780 mg/unit

Total CBDV (CBDV+0.877*CBDVa)

CANNABINOID TEST RESULTS - 02/18/2022

COMPOUND	LOD/LOQ (mg/mL)	MEASUREMENT UNCERTAINTY (mg/mL)	RESULT (mg/mL)	RESULT (%)
CBD	*0.004 / 0.011*	*±0.8034*	21.539	2.2720
Δ^9-THC	*0.002 / 0.014*	*±0.0370*	0.674	0.0711
CBC	*0.003 / 0.010*	*±0.0204*	0.634	0.0669
CBG	*0.002 / 0.006*	*±0.0141*	0.290	0.0306
CBDV	*0.002 / 0.012*	*±0.0051*	0.126	0.0133
CBN	*0.001 / 0.007*	*±0.0008*	0.028	0.0030
CBL	*0.003 / 0.010*	*±0.0008*	0.023	0.0024
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
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
CBCa	*0.001 / 0.015*	*N/A*	ND	ND
SUM OF CANNABINOIDS			23.314 mg/mL	2.4593%

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

Δ^9-THC per Unit	20.220 mg/unit
Δ^9-THC per Serving	0.674 mg/serving
Total THC per Unit	20.220 mg/unit
Total THC per Serving	0.674 mg/serving
CBD per Unit	646.170 mg/unit
CBD per Serving	21.539 mg/serving
Total CBD per Unit	646.170 mg/unit
Total CBD per Serving	21.539 mg/serving
Sum of Cannabinoids per Unit	699.420 mg/unit
Sum of Cannabinoids per Serving	23.314 mg/serving
Total Cannabinoids per Unit	699.420 mg/unit
Total Cannabinoids per Serving	23.314 mg/serving

DENSITY TEST RESULT

0.948 g/mL

Tested 02/18/2022

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 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 CB_2 receptor agonist. Found in black pepper, clove, hops, rosemary, black-jack, perilla, spicebush, Indian pennywort, celery, frankincense, vitex, parsley, marigold, tamarind...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 α-Humulene

Also known as α-caryophyllene, it is an isomer of the sesquiterpene β-Caryophyllene which frequently occurs in nature with many aromatic plants across the globe. It has a fragrance that can be described as earthy or musky with spicy undertones. Found in hops, forskohlii, skullcaps, basil, nutmeg, cloves, sage, cotton, tamarind, black pepper, guava, Scotch pine...etc.

TERPENOID TEST RESULTS - 02/19/2022

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
β-Caryophyllene	*0.004 / 0.012*	*±0.0063*	**0.228**	**0.0228**
α-Bisabolol	*0.008 / 0.026*	*±0.0046*	**0.110**	**0.0110**
α-Humulene	*0.009 / 0.029*	*±0.0021*	**0.085**	**0.0085**
Guaiol	*0.009 / 0.030*	*±0.0029*	**0.080**	**0.0080**
Terpinolene	*0.008 / 0.026*	*N/A*	**<LOQ**	**<LOQ**
Linalool	*0.009 / 0.032*	*N/A*	**<LOQ**	**<LOQ**
Fenchol	*0.010 / 0.034*	*N/A*	**<LOQ**	**<LOQ**
Terpineol	*0.009 / 0.031*	*N/A*	**<LOQ**	**<LOQ**
trans-β-Farnesene	*0.008 / 0.025*	*N/A*	**<LOQ**	**<LOQ**
Valencene	*0.009 / 0.030*	*N/A*	**<LOQ**	**<LOQ**
Nerolidol	*0.006 / 0.019*	*N/A*	**<LOQ**	**<LOQ**
Caryophyllene Oxide	*0.010 / 0.033*	*N/A*	**<LOQ**	**<LOQ**
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^3-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**
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**
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**
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**
Cedrol	*0.008 / 0.027*	*N/A*	**ND**	**ND**
TOTAL TERPENOIDS			**0.503 mg/g**	**0.0503%**

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

Exclusions[1] see last page

PESTICIDE TEST RESULTS - 02/18/2022 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Abamectin	0.03 / 0.10	0.3	N/A	ND	PASS
Azoxystrobin	0.02 / 0.07	40	N/A	ND	PASS
Bifenazate	0.01 / 0.04	5	N/A	ND	PASS
Bifenthrin	0.02 / 0.05	0.5	N/A	ND	PASS
Boscalid	0.03 / 0.09	10	N/A	ND	PASS
Chlorpyrifos	0.02 / 0.06	≥ LOD	N/A	ND	PASS
Cypermethrin	0.11 / 0.32	1	N/A	ND	PASS
Etoxazole	0.02 / 0.06	1.5	N/A	ND	PASS
Hexythiazox	0.02 / 0.07	2	N/A	ND	PASS
Imidacloprid	0.04 / 0.11	3	N/A	ND	PASS
Malathion	0.03 / 0.09	5	N/A	ND	PASS
Myclobutanil	0.03 / 0.09	9	N/A	ND	PASS
Permethrin	0.04 / 0.12	20	N/A	ND	PASS
Piperonyl Butoxide	0.02 / 0.07	8	N/A	ND	PASS
Propiconazole	0.02 / 0.07	20	N/A	ND	PASS
Spiromesifen	0.02 / 0.05	12	N/A	ND	PASS
Tebuconazole	0.02 / 0.07	2	N/A	ND	PASS
Trifloxystrobin	0.03 / 0.08	30	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

Exclusions[2] see last page

RESIDUAL SOLVENTS TEST RESULTS - 02/19/2022 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Propane	10 / 20	5000	N/A	ND	PASS
n-Butane	10 / 50	5000	N/A	ND	PASS
n-Pentane	20 / 50	5000	N/A	ND	PASS
n-Hexane	2 / 5	290	N/A	ND	PASS
n-Heptane	20 / 60	5000	N/A	ND	PASS
Benzene	0.03 / 0.09	1	N/A	ND	PASS
Toluene	7 / 21	890	N/A	ND	PASS
Total Xylenes	50 / 160	2170	N/A	ND	PASS
Methanol	50 / 200	3000	N/A	ND	PASS
Ethanol	20 / 50	5000	N/A	ND	PASS
2-Propanol (Isopropyl Alcohol)	10 / 40	5000	N/A	ND	PASS
Acetone	20 / 50	5000	N/A	ND	PASS
Ethyl Ether	20 / 50	5000	N/A	ND	PASS
Ethylene Oxide	0.3 / 0.8	1	N/A	ND	PASS
Ethyl Acetate	20 / 60	5000	N/A	ND	PASS
Chloroform	0.1 / 0.2	1	N/A	ND	PASS
Dichloromethane (Methylene Chloride)	0.3 / 0.9	1	N/A	ND	PASS

Continued on next page

Residual Solvents Analysis
Continued

RESIDUAL SOLVENTS TEST RESULTS - 02/19/2022 *continued* PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Trichloroethylene	*0.1 / 0.3*	*1*	*N/A*	ND	PASS
1,2-Dichloroethane	*0.05 / 0.1*	*1*	*N/A*	ND	PASS
Acetonitrile	*2 / 7*	*410*	*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 - 02/18/2022 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Arsenic	*0.02 / 0.1*	*0.42*	*N/A*	ND	PASS
Cadmium	*0.02 / 0.05*	*0.27*	*N/A*	ND	PASS
Lead	*0.04 / 0.1*	*0.5*	*N/A*	ND	PASS
Mercury	*0.002 / 0.01*	*0.4*	*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) - 02/21/2022 PASS

COMPOUND	ACTION LIMIT (cfu/g)	RESULT (cfu/g)	RESULT
Shiga toxin-producing *Escherichia coli*	*Not Detected in 1g*	ND	PASS
Salmonella spp.	*Not Detected in 1g*	ND	PASS
Bile-Tolerant Gram-Negative Bacteria	*100*	ND	PASS
Staphylococcus aureus	*Not Detected in 1g*	ND	PASS

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

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

MICROBIOLOGY TEST RESULTS (PLATING) - 02/21/2022 PASS

COMPOUND	ACTION LIMIT (cfu/g)	RESULT (cfu/g)	RESULT
Total Aerobic Bacteria	*100*	ND	PASS
Total Yeast and Mold	*10*	ND	PASS

NOTES
1. Exclusions: Sample Certification: California Code of Regulation Title 4 Division 19
2. Exclusions: Sample Certification: California Code of Regulation Title 4 Division 19