Hemp Quality Assurance Testing
CERTIFICATE OF ANALYSIS

DATE ISSUED 08/25/2022

SAMPLE NAME: A00000155
Infused, Hemp

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: 220819S002

Date Collected: 08/19/2022
Date Received: 08/19/2022
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: 41.520 mg/unit

Total CBD: 1239.120 mg/unit

Sum of Cannabinoids: 1354.800 mg/unit

Total Cannabinoids: 1354.800 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: 0.9503 g/mL

TERPENOID ANALYSIS - SUMMARY

39 TESTED, TOP 3 HIGHLIGHTED

Total Terpenoids: 0.1442%

β-Caryophyllene 0.494 mg/g | α-Bisabolol 0.339 mg/g | Guaiol 0.208 mg/g

SAFETY ANALYSIS - SUMMARY

Pesticides: ND

Residual Solvents: ND

Heavy Metals: ND

Microbiology (PCR): ND

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), too numerous to count >250 cfu/plate (TNTC), colony-forming unit (cfu)

LQC verified by: Callie Stone
Date: 08/25/2022

Approved by: Josh Wurzer, President
Date: 08/25/2022

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

TOTAL CBD: 1239.120 mg/unit
Total CBD (CBD+0.877*CBDa)

TOTAL CANNABINOIDS: 1354.800 mg/unit
Total Cannabinoids (Total THC) + (Total CBD) + (Total CBG) + (Total THCV) + (Total CBC) + (Total CBDV) + Δ^8-THC + CBL + CBN

TOTAL CBG: 22.200 mg/unit
Total CBG (CBG+0.877*CBGa)

TOTAL THCV: ND
Total THCV (THCV+0.877*THCVa)

TOTAL CBC: 43.140 mg/unit
Total CBC (CBC+0.877*CBCa)

TOTAL CBDV: 6.060 mg/unit
Total CBDV (CBDV+0.877*CBDVa)

CANNABINOID TEST RESULTS - 08/22/2022

COMPOUND	LOD/LOQ (mg/mL)	MEASUREMENT UNCERTAINTY (mg/mL)	RESULT (mg/mL)	RESULT (%)
CBD	*0.004 / 0.011*	*±1.5406*	41.304	4.3464
CBC	*0.003 / 0.010*	*±0.0463*	1.438	0.1513
Δ^9-THC	*0.002 / 0.014*	*±0.0760*	1.384	0.1456
CBG	*0.002 / 0.006*	*±0.0359*	0.740	0.0779
CBDV	*0.002 / 0.012*	*±0.0082*	0.202	0.0213
CBN	*0.001 / 0.007*	*±0.0016*	0.057	0.0060
CBL	*0.003 / 0.010*	*±0.0013*	0.035	0.0037
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			45.160 mg/mL	4.7522%

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

Δ^9-THC per Unit	41.520 mg/unit
Δ^9-THC per Serving	1.384 mg/serving
Total THC per Unit	41.520 mg/unit
Total THC per Serving	1.384 mg/serving
CBD per Unit	1239.120 mg/unit
CBD per Serving	41.304 mg/serving
Total CBD per Unit	1239.120 mg/unit
Total CBD per Serving	41.304 mg/serving
Sum of Cannabinoids per Unit	1354.800 mg/unit
Sum of Cannabinoids per Serving	45.160 mg/serving
Total Cannabinoids per Unit	1354.800 mg/unit
Total Cannabinoids per Serving	45.160 mg/serving

DENSITY TEST RESULT

0.9503 g/mL

Tested 08/22/2022

Method: QSP 7870 - Sample Preparation

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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 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 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.

TERPENOID TEST RESULTS - 08/24/2022

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
β-Caryophyllene	*0.004 / 0.012*	*±0.0137*	**0.494**	**0.0494**
α-Bisabolol	*0.008 / 0.026*	*±0.0141*	**0.339**	**0.0339**
Guaiol	*0.009 / 0.030*	*±0.0076*	**0.208**	**0.0208**
α-Humulene	*0.009 / 0.029*	*±0.0050*	**0.200**	**0.0200**
Caryophyllene Oxide	*0.010 / 0.033*	*±0.0032*	**0.088**	**0.0088**
Linalool	*0.009 / 0.032*	*±0.0013*	**0.043**	**0.0043**
Nerolidol	*0.006 / 0.019*	*±0.0018*	**0.037**	**0.0037**
trans-β-Farnesene	*0.008 / 0.025*	*±0.0009*	**0.033**	**0.0033**
Sabinene	*0.004 / 0.014*	*N/A*	**<LOQ**	**<LOQ**
Fenchol	*0.010 / 0.034*	*N/A*	**<LOQ**	**<LOQ**
Borneol	*0.005 / 0.016*	*N/A*	**<LOQ**	**<LOQ**
Terpineol	*0.009 / 0.031*	*N/A*	**<LOQ**	**<LOQ**
Valencene	*0.009 / 0.030*	*N/A*	**<LOQ**	**<LOQ**
α-Pinene	*0.005 / 0.017*	*N/A*	**ND**	**ND**
Camphene	*0.005 / 0.015*	*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**
Terpinolene	*0.008 / 0.026*	*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**
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			**1.442 mg/g**	**0.1442%**

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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).

*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 - 08/24/2022 **ND**

COMPOUND	LOD/LOQ (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)
Abamectin	0.03 / 0.10	N/A	ND
Azoxystrobin	0.02 / 0.07	N/A	ND
Bifenazate	0.01 / 0.04	N/A	ND
Bifenthrin	0.02 / 0.05	N/A	ND
Boscalid	0.03 / 0.09	N/A	ND
Chlorpyrifos	0.02 / 0.06	N/A	ND
Cypermethrin	0.11 / 0.32	N/A	ND
Etoxazole	0.02 / 0.06	N/A	ND
Hexythiazox	0.02 / 0.07	N/A	ND
Imidacloprid	0.04 / 0.11	N/A	ND
Malathion	0.03 / 0.09	N/A	ND
Myclobutanil	0.03 / 0.09	N/A	ND
Permethrin	0.04 / 0.12	N/A	ND
Piperonyl Butoxide	0.02 / 0.07	N/A	ND
Propiconazole	0.02 / 0.07	N/A	ND
Spiromesifen	0.02 / 0.05	N/A	ND
Tebuconazole	0.02 / 0.07	N/A	ND
Trifloxystrobin	0.03 / 0.08	N/A	ND

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 - 08/24/2022 **ND**

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

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Residual Solvents Analysis
Continued

RESIDUAL SOLVENTS TEST RESULTS - 08/24/2022 *continued* **ND**

COMPOUND	LOD/LOQ (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)
Trichloroethylene	*0.1 / 0.3*	*N/A*	ND
1,2-Dichloroethane	*0.05 / 0.1*	*N/A*	ND
Acetonitrile	*2 / 7*	*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 - 08/24/2022 **ND**

COMPOUND	LOD/LOQ (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)
Arsenic	*0.02 / 0.1*	*N/A*	ND
Cadmium	*0.02 / 0.05*	*N/A*	ND
Lead	*0.04 / 0.1*	*N/A*	ND
Mercury	*0.002 / 0.01*	*N/A*	ND

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) - 08/25/2022 **ND**

COMPOUND	RESULT (cfu/g)
Shiga toxin-producing *Escherichia coli*	ND
Salmonella spp.	ND
Bile-Tolerant Gram-Negative Bacteria	ND
Staphylococcus aureus	ND

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

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

MICROBIOLOGY TEST RESULTS (PLATING) - 08/25/2022 **ND**

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

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