

# Hemp Quality Assurance Testing

### CERTIFICATE OF ANALYSIS

DATE ISSUED 12/19/2020

SAMPLE NAME: A00000022

Infused, Liquid Edible

**CULTIVATOR / MANUFACTURER** 

**Business Name:** License Number:

Address:

DISTRIBUTOR

Business Name: New York Hemp Oil

License Number:

Address:

SAMPLE DETAIL

Batch Number:

Sample ID: 201214W008

Date Collected: 12/14/2020 Date Received: 12/14/2020

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: 83.340 mg/unit

Total CBD: 2386.800 mg/unit

Total Cannabinoids: 2598.090 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 =  $\Delta$ 9THC + (THCa (0.877))

Total CBD = CBD + (CBDa (0.877))

Sum of Cannabinoids = Δ9THC + THCa + CBD + CBDa + CBG + CBGa +

Sum of Cannabinoids: 2598.870 mg/unit<sup>THCV</sup> + THCVa + CBC + CBCa + CBDV + CBDVa + Δ8THC + CBL + CBN Total Cannabinoids = (Δ9THC+0.877\*THCa) + (CBD+0.877\*CBDa) +

(CBG+0.877\*CBGa) + (THCV+0.877\*THCVa) + (CBC+0.877\*CBCa) + (CBDV+0.877\*CBDVa) + Δ8THC + CBL + CBN

Moisture: NT

Density: 0.9528 g/mL

Viscosity: NT

#### SAFETY ANALYSIS - SUMMARY

Δ9THC per Unit: 

PASS

Foreign Material: NT

Water Activity: NT

Vitamin E Acetate: NT

Pesticides: PASS

Mycotoxins: NT

Residual Solvents: O PASS

Heavy Metals: OPASS

Microbial Impurities (PCR): OPASS

Microbial Impurities (Plating): NT

TERPENOID ANALYSIS - SUMMARY

36 TESTED, TOP 3 HIGHLIGHTED

β Caryophyllene 0.94 mg/g

α Bisabolol 0.46 mg/g

α Humulene 0.42 mg/g

For quality assurance purposes. Not a Pre-Harvest 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.

References: limit of detection (LOD), limit of quantification (LOQ), not detected (ND), not tested (NT)

Sample Certification: California Code of Regulations Title 16 Effect Date January 16, 2019. Authority: Section 26013, 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.

SC Laboratories, LLC. 100 Pioneer Street, Suite E, Santa Cruz, CA 95060 | 866-435-0709 | sclabs.com | C8-0000013-LIC | ISO/IES 17025 : 2017 Accredited PJLA Accreditation Number 87168 © 2020 SC Labs all rights reserved. Trademarks referenced are trademarks of either SC Labs or their respective owners, MKT0003 REV5 6/20 CoA ID: 201214W008-002 Page 1 of 7





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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: 83.340 mg/unit
Total THC (Δ9THC+0.877\*THCa)

TOTAL CBD: 2386.800 mg/unit

Total CBD (CBD+0.877\*CBDa)

TOTAL CANNABINOIDS: 2598.090 mg/unit

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

TOTAL CBG: 32.580 mg/unit

Total CBG (CBG+0.877\*CBGa)

TOTAL THCV: ND

Total THCV (THCV+0.877\*THCVa)

TOTAL CBC: 76.500 mg/unit

Total CBC (CBC+0.877\*CBCa)

TOTAL CBDV: 17.100 mg/unit Total CBDV (CBDV+0.877\*CBDVa)

#### CANNABINOID TEST RESULTS - 12/16/2020

COMPOUND	LOD/LOQ (mg/mL)	MEASUREMENT UNCERTAINTY (mg/mL)	RESULT (mg/mL)	RESULT (%)
CBD	0.004/0.011	±3.8025	79.385	8.3318
<b>Д9ТНС</b>	0.002/0.005	±0.1958	2.778	0.2916
CBC	0.003 / 0.010	±0.1051	2.538	0.2664
CBG	0.002 / 0.005	±0.0675	1.086	0.1140
CBDV	0.002 / 0.007	±0.0299	0.570	0.0598
CBDa	0.001 / 0.003	±0.0073	0.199	0.0209
CBL	0.003 / 0.008	±0.0019	0.040	0.0042
CBN	0.001/0.004	±0.0007	0.019	0.0020
CBCa	0.001/0.004	±0.0007	0.014	0.0015
<b>Д8ТНС</b>	0.01/0.02	N/A	ND	ND
THCa	0.001/0.002	N/A	ND	ND
THCV	0.002/0.008	N/A	ND	ND
THCVa	0.002 / 0.005	N/A	ND	ND
CBDVa	0.001/0.003	N/A	ND	ND
CBGa	0.002/0.006	N/A	ND	ND
SUM OF CANNA	ABINOIDS		86.629 mg/mL	9.092%

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

Δ9THC per Unit	1100 per-package limit	83.340 mg/unit	PASS
Δ9THC per Serving		2.778 mg/serving	
Total THC per Unit		83.340 mg/unit	
Total THC per Serving		2.778 mg/serving	
CBD per Unit		2381.550 mg/unit	TEST TY
CBD per Serving	79.385 mg/serving		
Total CBD per Unit	2386.800 mg/unit		
Total CBD per Serving	79.560 mg/serving		
Sum of Cannabinoids per Unit	2598.870 mg/unit		
Sum of Cannabinoids per Serving	86.629 mg/serving		
Total Cannabinoids per Unit	2598.090 mg/unit		
Total Cannabinoids per Serving	86.603 mg/serving		

MOISTURE TEST RESULT	DENSITY TEST RESULT	VISCOSITY TEST RESULT
Not Tested	0.9528 g/mL	Not Tested
	Tested 12/16/2020	
	Method: QSP 7870 - Sample Preparation	







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### **Terpenoid Analysis**

Terpene analysis utilizing gas chromatographyflame ionization detection (GC-FID). Terpenes are the aromatic compounds that endow cannabis with their unique scent and effect. Following are the primary terpenes detected.

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



#### 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<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.



#### 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.



#### α Humulene

Also known as  $\alpha$ -caryophyllene, it is an isomer of the sesquiterpene  $\beta$ -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 - 12/18/2020

COMPOUND	LOD/LOQ (mg/g)	MEASUREMENT UNCERTAINTY (mg/g)	RESULT (mg/g)	RESULT (%)
β Caryophyllene	0.02/0.07	±0.045	0.94	0.094
α Bisabolol	0.02/0.07	±0.020	0.46	0.046
α Humulene	0.02 / 0.05	±0.014	0.42	0.042
Guaiol	0.03/0.09	±0.014	0.23	0.023
Linalool	0.03 / 0.08	±0.004	0.08	0.008
Valencene	0.01/0.03	±0.001	0.07	0.007
Terpinolene	0.03 / 0.09	N/A	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
Fenchol	0.03 / 0.09	N/A	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
Terpineol	0.02/0.07	N/A	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
Caryophyllene Oxide	0.04/0.11	N/A	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
α Pinene	0.03 / 0.09	N/A	ND	ND
Camphene	0.04/0.11	N/A	ND	ND
Sabinene	0.04/0.11	N/A	ND	ND
βPinene	0.04 / 0.11	N/A	ND	ND
Myrcene	0.04/0.11	N/A	ND	ND
α Phellandrene	0.05 / 0.1	N/A	ND	ND
3 Carene	0.04/0.1	N/A	ND	ND
αTerpinene	0.04/0.1	N/A	ND	ND
Limonene	0.02/0.05	N/A	ND	ND
Eucalyptol	0.03/0.08	N/A	ND	ND
Ocimene	0.03/0.09	N/A	ND	ND
γTerpinene	0.04/0.1	N/A	ND	ND
Sabinene Hydrate	0.02/0.07	N/A	ND	ND
Fenchone	0.04/0.12	N/A	ND	ND
(-)-Isopulegol	0.02/0.05	N/A	ND	ND
Camphor	0.1/0.2	N/A	ND	ND
Isoborneol	0.04 / 0.1	N/A	ND	ND
Borneol	0.1/0.2	N/A	ND	ND
Menthol	0.03 / 0.09	N/A	ND	ND
Nerol	0.03 / 0.09	N/A	ND	ND
R-(+)-Pulegone	0.03/0.09	N/A	ND	ND
Geraniol	0.02/0.07	N/A	ND	ND
Geranyl Acetate	0.02 / 0.06	N/A	ND	ND
α Cedrene	0.02/0.07	N/A	ND	ND
Nerolidol	0.3/0.8	N/A	ND	ND
Cedrol	0.04/0.11	N/A	ND	ND
TOTAL TERPENOIDS			2.20 mg/g	0.22%







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## **Pesticide Analysis**

#### **CATEGORY 1 AND 2 PESTICIDES**

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

#### CATEGORY 1 PESTICIDE TEST RESULTS - 12/19/2020 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (µg/g)	RESULT
Aldicarb	0.03/0.09	≥LOD	N/A	ND	PASS
Carbofuran	0.01/0.04	≥LOD	N/A	ND	PASS
Chlordane*	0.03/0.08	≥LOD	N/A	ND	PASS
Chlorfenapyr*	0.03/0.10	≥LOD	N/A	ND	PASS
Chlorpyrifos	0.02 / 0.06	≥LOD	N/A	ND	PASS
Coumaphos	0.02/0.06	≥LOD	N/A	ND	PASS
Daminozide	0.03/0.10	≥LOD	N/A	ND	PASS
DDVP (Dichlorvos)	0.02 / 0.07	≥LOD	N/A	ND	PASS
Dimethoate	0.02 / 0.07	≥LOD	N/A	ND	PASS
Ethoprop(hos)	0.03 / 0.08	≥LOD	N/A	ND	PASS
Etofenprox	0.02 / 0.05	≥LOD	N/A	ND	PASS
Fenoxycarb	0.02 / 0.06	≥LOD	N/A	ND	PASS
Fipronil	0.02 / 0.06	≥LOD	N/A	ND	PASS
lmazalil	0.02 / 0.06	≥LOD	N/A	ND	PASS
Methiocarb	0.02 / 0.06	≥LOD	N/A	ND	PASS
Methyl parathion	0.03/0.10	≥LOD	N/A	ND	PASS
Mevinphos	0.03 / 0.09	≥LOD	N/A	ND	PASS
Paclobutrazol	0.02/0.05	≥LOD	N/A	ND	PASS
Propoxur	0.02/0.06	≥LOD	N/A	ND	PASS
Spiroxamine	0.02 / 0.05	≥LOD	N/A	ND	PASS
Thiacloprid	0.03 / 0.07	≥LOD	N/A	ND	PASS

#### CATEGORY 2 PESTICIDE TEST RESULTS - 12/19/2020 PASS

Abamectin	0.03/0.10	0.3	N/A	ND	PASS
Acephate	0.01/0.04	5	N/A	ND	PASS
Acequinocyl	0.02/0.05	4	N/A	ND	PASS
Acetamiprid	0.02/0.05	5	N/A	ND	PASS
Azoxystrobin	0.01/0.04	40	N/A	ND	PASS
Bifenazate	0.01/0.02	5	N/A	ND	PASS
Bifenthrin	0.01/0.02	0.5	N/A	ND	PASS
Boscalid	0.02 / 0.06	10	N/A	ND	PASS
Captan	0.2 / 0.5	5	N/A	ND	PASS
Carbaryl	0.01 / 0.02	0.5	N/A	ND	PASS
Chlorantraniliprole	0.01 / 0.03	40	N/A	ND	PASS

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### Pesticide Analysis Continued

#### **CATEGORY 1 AND 2 PESTICIDES**

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

#### CATEGORY 2 PESTICIDE TEST RESULTS - 12/19/2020 continued PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Clofentezine	0.02/0.06	0.5	N/A	ND	PASS
Cyfluthrin	0.1 / 0.4	1	N/A	ND	PASS
Cypermethrin	0.1/0.3	1	N/A	ND	PASS
Diazinon	0.01 / 0.04	0.2	N/A	ND	PASS
Dimethomorph	0.01 / 0.03	20	N/A	ND	PASS
Etoxazole	0.010 / 0.028	1.5	N/A	ND	PASS
Fenhexamid	0.02 / 0.1	10	N/A	ND	PASS
Fenpyroximate	0.03/0.08	2	N/A	ND	PASS
Flonicamid	0.01/0.04	2	N/A	ND	PASS
Fludioxonil	0.03/0.08	30	N/A	ND	PASS
Hexythiazox	0.01/0.04	2	N/A	ND	PASS
Imidacloprid	0.01/0.04	3	N/A	ND	PASS
Kresoxim-methyl	0.02/0.07	1	N/A	ND	PASS
Malathion	0.02 / 0.05	5	N/A	ND	PASS
Metalaxyl	0.02/0.06	15	N/A	ND	PASS
Methomyl	0.03/0.1	0.1	N/A	ND	PASS
Myclobutanil	0.03/0.1	9	N/A	ND	PASS
Naled	0.03 / 0.1	0.5	N/A	ND	PASS
Oxamyl	0.02/0.06	0.2	N/A	ND	PASS
Pentachloronitrobenzene*	0.03/0.09	0.2	N/A	ND	PASS
Permethrin	0.03/0.09	20	N/A	ND	PASS
Phosmet	0.03/0.10	0.2	N/A	ND	PASS
Piperonylbutoxide	0.003/0.009	8	N/A	ND	PASS
Prallethrin	0.03 / 0.08	0.4	N/A	ND	PASS
Propiconazole	0.01 / 0.03	20	N/A	ND	PASS
Pyrethrins	0.03/0.08	1	N/A	ND	PASS
Pyridaben	0.006/0.019	3	N/A	ND	PASS
Spinetoram	0.02 / 0.07	3	N/A	ND	PASS
Spinosad	0.02 / 0.06	3	N/A	ND	PASS
Spiromesifen	0.02 / 0.05	12	N/A	ND	PASS
Spirotetramat	0.01/0.02	13	N/A	ND	PASS
Tebuconazole	0.02/0.07	2	N/A	ND	PASS
Thiamethoxam	0.03 / 0.08	4.5	N/A	ND	PASS
Trifloxystrobin	0.01/0.03	30	N/A	ND	PASS







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# Residual Solvents Analysis

CATEGORY 1 AND 2 RESIDUAL SOLVENTS Residual Solvent analysis utilizing gas chromatography-mass spectrometry (GC-MS).

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

#### CATEGORY 1 RESIDUAL SOLVENTS TEST RESULTS - 12/17/2020 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (μg/g)	RESULT (µg/g)	RESULT
1,2-Dichloroethane	0.05/0.1	1	N/A	ND	PASS
Benzene	0.03/0.09	1	N/A	ND	PASS
Chloroform	0.1/0.2	1	N/A	ND	PASS
Ethylene Oxide	0.1/0.4	1	N/A	<loq< td=""><td>PASS</td></loq<>	PASS
Methylene chloride	0.3/0.9	1	N/A	ND	PASS
Trichloroethylene	0.1/0.3	1	N/A	ND	PASS

#### CATEGORY 2 RESIDUAL SOLVENTS TEST RESULTS - 12/17/2020 O PASS

Acetone	20/50	5000	N/A	ND	PASS
Acetonitrile	2/7	410	N/A	ND	PASS
Butane	10/50	5000	N/A	ND	PASS
Ethanol	20/50	5000	N/A	ND	PASS
Ethyl acetate	20/60	5000	N/A	ND	PASS
Ethyl ether	20/50	5000	N/A	ND	PASS
Heptane	20/60	5000	N/A	ND	PASS
Hexane	2/5	290	N/A	ND	PASS
Isopropyl Alcohol	10/40	5000	N/A	ND	PASS
Methanol	50/200	3000	N/A	ND	PASS
Pentane	20/50	5000	N/A	ND	PASS
Propane	10/20	5000	N/A	ND	PASS
Toluene	7/21	890	N/A	ND	PASS
Total Xylenes	50/160	2170	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 - 12/16/2020 PASS

COMPOUND	LOD/LOQ (µg/g)	ACTION LIMIT (µg/g)	MEASUREMENT UNCERTAINTY (µg/g)	RESULT (µg/g)	RESULT
Cadmium	0.02 / 0.05	0.5	N/A	ND	PASS
Lead	0.04 / 0.1	0.5	N/A	ND	PASS
Arsenic	0.02 / 0.1	1.5	N/A	ND	PASS
Mercury	0.002/0.01	3	N/A	ND	PASS





### Hemp Quality Assurance Testing

### **CERTIFICATE OF ANALYSIS**

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# Microbial Impurities Analysis

PCR AND PLATING

Analysis conducted by polymerase chain reaction (PCR) and fluorescence detection of microbial impurities.

Method: QSP 1221 - Analysis of Microbial Impurities

Analysis conducted by  $3M^T$  Petrifilm and plate counts of microbial impurities.

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

### MICROBIAL IMPURITIES TEST RESULTS (PCR) - 12/17/2020 PASS

COMPOUND	<b>ACTION LIMIT</b>	RESULT	RESULT
Shiga toxin-producing Escherichia coli	Detect	ND	PASS
Salmonella spp.	Detect	ND	PASS
Aspergillus fumigatus	Detect	ND	PASS
Aspergillus flavus	Detect	ND	PASS
Aspergillus niger	Detect	ND	PASS
Aspergillus terreus	Detect	ND	PASS

#### MICROBIAL IMPURITIES TEST RESULTS (PLATING)

COMPOUND	RESULT (cfu/g)
Aerobic Plate Count	NT
Total Yeast and Mold	NT

