



Certificate ID: **102018-485**

Received: **2/9/22**

Client Sample ID: **50mg CBGa/CBDa Liquid Veg. Capsules**

Lot Number: **1071**

Matrix: **Capsules/Tablets - Capsule-Oil Based**

Scan QR Code for authenticity



Casco Bay Hemp

Authorization:

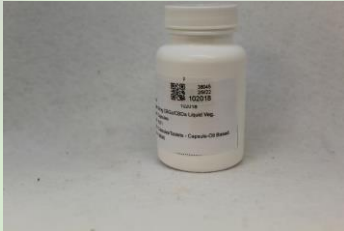
Chris Hudalla, Chief Science Officer

Signature:



Date:

2/17/2022



The data contained within this report was collected in accordance with the requirements of ISO/IEC17025:2017. I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

CN: Cannabinoid Profile & Potency [WI-10-17 & WI-10-17-01]

Analyst: *sej*

Test Date: 2/11/2022

The client sample was analyzed for plant-based cannabinoids by Liquid Chromatography (LC). The collected data was compared to data collected for certified reference standards at known concentrations.

102018-CN

| ID | Weight % | Concentration (mg/capsule) | |
|-----------------|----------|----------------------------|--|
| Δ^9 -THC | 0.0556 | 0.301 | |
| THCV | ND | ND | |
| CBD | 0.597 | 3.23 | |
| CBDV | ND | ND | |
| CBG | ND | ND | |
| CBC | 0.0337 | 0.182 | |
| CBN | ND | ND | |
| THCA | 0.103 | 0.559 | |
| CBDA | 5.32 | 28.8 | |
| CBGA | 5.56 | 30.1 | |
| Δ^8 -THC | ND | ND | |
| exo-THC | ND | ND | |
| Total | 11.7 | 63.1 | 0% Cannabinoids (wt%) 5.56% |
| Max THC | 0.146 | 0.791 | Limit of Quantitation (LOQ) = 0.0116 wt% |
| Max CBD | 5.26 | 28.5 | Limit of Detection (LOD) = 0.0039 wt% |

Ratio of Total CBD to THC 36.0:1

Max THC (and Max CBD) are calculated values for total cannabinoids after heating, assuming complete decarboxylation of the acid to the neutral form. It is calculated based on the weight loss of the acid group during decarboxylation: $MAX\ THC = (0.877 \times THCA) + THC$. This calculation does not include other cannabinoid isomers (eg. D8-THC and exo-THC). ND=None detected above the limits of detection (LOD), which is one third of Limit of Quantification (LOQ). For values reported as "<LOQ", the estimated value is included in the calculated Total.

HM: Heavy Metal Analysis [WI-10-13]

Analyst: AEH

Test Date: 2/10/2022

This test method was performed in accordance with the requirements of ISO/IEC 17025. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

102018-HM

| Symbol | Metal | Conc. ¹ (µg/kg) | RL | Use Limits ² (µg/kg) | Status |
|--------|---------|----------------------------|------|---------------------------------|--------|
| As | Arsenic | ND | 50.0 | 1,500 | PASS |
| Cd | Cadmium | ND | 50.0 | 500 | PASS |
| Hg | Mercury | ND | 50.0 | 1,500 | PASS |
| Pb | Lead | ND | 50.0 | 1,000 | PASS |

1) ND = None detected above the indicated Reporting Limit (RL)

2) MA Dept. of Public Health: Protocol for MMJ and MIPS, Exhibit 4(a) for all products.

3) USP exposure limits based on daily oral dosing of 1g of concentrate for a 110 lb person.

MB1: Microbiological Contaminants [WI-10-09]

Analyst: BKB

Test Date: 2/11/2022

This test method was performed in accordance with the requirements of ISO/IEC 17025. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

102018-MB1

| Symbol | Analysis | Results | Units | Limits* | Status |
|--------|---|---------|-------|---------------|--------|
| AC | Total Aerobic Bacterial Count | <100 | CFU/g | 100,000 CFU/g | PASS |
| CC | Total Coliform Bacterial Count | <100 | CFU/g | 1,000 CFU/g | PASS |
| EB | Total Bile Tolerant Gram Negative Count | <100 | CFU/g | 1,000 CFU/g | PASS |
| YM | Total Yeast & Mold | <100 | CFU/g | 10,000 CFU/g | PASS |

Recommended limits established by the American Herbal Pharmacopoeia (AHP) monograph for Cannabis Inflorescence [2013], for consumable botanical products, including processed and unprocessed cannabis materials, and solvent-based extracts. Note: All recorded Microbiological tests are within the established limits.

MB2: Pathogenic Bacterial Contaminants [WI-10-10]

Analyst: DCR

Test Date: 2/12/2022

This test method was performed in accordance with the requirements of ISO/IEC 17025. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

102018-MB2

| Test ID | Analysis | Results | Units | Limits* | Status |
|-------------|----------------|----------|-------|--------------|--------|
| 102018-ECPT | E. coli (O157) | Negative | NA | Non Detected | PASS |
| 102018-SPT | Salmonella | Negative | NA | Non Detected | PASS |

Note: All recorded pathogenic bacteria tests passed.

PST: Pesticide Analysis [WI-10-11]

Analyst: CJR

Test Date: 2/10/2022

The client sample was analyzed for pesticides using Liquid Chromatography with Mass Spectrometric detection (LC/MS/MS). The method used for sample prep was based on the European method for pesticide analysis (EN 15662).

102018-PST

| Analyte | CAS | Result | Units | LLD | Limits (ppb) | Status |
|--------------------|-------------|--------|-------|------|--------------|--------|
| Abamectin | 71751-41-2 | ND | ppb | 0.20 | 10 | PASS |
| Azoxystrobin | 131860-33-8 | ND | ppb | 0.10 | 100 | PASS |
| Bifenazate | 149877-41-8 | ND | ppb | 0.10 | 100 | PASS |
| Bifenthrin | 82657-04-3 | ND | ppb | 0.20 | 3000 | PASS |
| Cyfluthrin | 68359-37-5 | ND | ppb | 0.50 | 2000 | PASS |
| Dichlorvos | 62-73-7 | ND | ppb | 3.00 | 10 | PASS |
| Etoxazole | 153233-91-1 | ND | ppb | 0.10 | 100 | PASS |
| Fenoxycarb | 72490-01-8 | ND | ppb | 0.10 | 10 | PASS |
| Imazalil | 35554-44-0 | ND | ppb | 0.10 | 10 | PASS |
| Imidacloprid | 138261-41-3 | ND | ppb | 0.10 | 5000 | PASS |
| Myclobutanil | 88671-89-0 | ND | ppb | 0.10 | 100 | PASS |
| Paclobutrazol | 76738-62-0 | ND | ppb | 0.10 | 10 | PASS |
| Piperonyl butoxide | 51-03-6 | ND | ppb | 0.10 | 3000 | PASS |
| Pyrethrin | 8003-34-7 | ND | ppb | 0.10 | 10 | PASS |
| Spinosad | 168316-95-8 | ND | ppb | 0.10 | 10 | PASS |
| Spiromesifen | 283594-90-1 | ND | ppb | 0.10 | 100 | PASS |
| Spirotetramat | 203313-25-1 | ND | ppb | 0.10 | 100 | PASS |
| Trifloxystrobin | 141517-21-7 | ND | ppb | 0.10 | 100 | PASS |

* Testing limits established by the Massachusetts Department of Public Health, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 5. ND indicates "none detected" above the lower limit of detection (LLD). Analytes marked with (*) indicate analytes for which no recovery was observed for a pre-spiked matrix sample due to matrix interference.

TP: Terpenes Profile [WI-10-27]

Analyst: CJS

Test Date: 2/11/2022

Client sample analysis was performed using full evaporative technique (FET) headspace sample delivery and gas chromatographic (GC) compound separation. A combination of flame ionization detection (FID) and/or mass spectrometric (MS) detection with mass spectral confirmation against the National Institute of Standards and Technology (NIST) Mass Spectral Database, Revision 2017 were used. Chromatographic and/or mass spectral data were processed by quantitatively comparing the analytical peak areas against calibration curves prepared from certified reference standards.

102018-TP

| Compound | CAS | Conc. (wt%) | Conc. (ppm) | Qualitative Profile |
|---------------------|------------|-------------|-------------|---------------------|
| alpha-pinene | 80-56-8 | 0.0024 | 24.4 | |
| camphene | 79-92-5 | <RL | <RL | |
| sabinene* | 3387-41-5 | ND | ND | |
| beta-pinene | 127-91-3 | <RL | <RL | |
| alpha-phellandrene | 99-83-2 | ND | ND | |
| delta-3-carene | 13466-78-9 | ND | ND | |
| alpha-terpinene | 99-86-5 | <RL | <RL | |
| alpha-ocimene | 502-99-8 | <RL | <RL | |
| D-limonene | 138-86-3 | 0.0006 | 5.57 | |
| p-cymene | 99-87-6 | 0.0009 | 9.17 | |
| cis-beta-ocimene | 3338-55-4 | <RL | <RL | |
| eucalyptol | 470-82-6 | ND | ND | |
| gamma-terpinene | 99-85-4 | <RL | <RL | |
| terpinolene | 586-62-9 | <RL | <RL | |
| linalool | 78-70-6 | <RL | <RL | |
| L-fenchone* | 7787-20-4 | ND | ND | |
| isopulegol | 89-79-2 | ND | ND | |
| menthol* | 89-78-1 | ND | ND | |
| geraniol | 106-24-1 | ND | ND | |
| beta-caryophyllene | 87-44-5 | 0.0013 | 13.0 | |
| alpha-humulene | 6753-98-6 | <RL | <RL | |
| cis-nerolidol | 3790-78-1 | ND | ND | |
| trans-nerolidol | 40716-66-3 | ND | ND | |
| guaiol | 489-86-1 | 0.0007 | 6.54 | |
| caryophyllene oxide | 1139-30-6 | <RL | <RL | |
| alpha-bisabolol | 23089-26-1 | 0.0007 | 7.37 | |

Total Terpene: <0.1 wt%

* Certified reference standard not available for this compound. Concentration is estimated using the response factor from alpha-pinene. ND = None Detected. RL = Reporting Limit of 5 ppm.

VC: Analysis of Volatile Organic Compounds [WI-10-28]

Analyst: CJS

Test Date: 2/10/2022

The client sample was analyzed by Head-Space Gas Chromatography (HS-GC). The collected data was compared to data collected for certified reference standards at known concentrations.

102018-VC

| Compound | CAS | Amount ¹ | Limit ² | RL | Status |
|--------------|----------|---------------------|--------------------|-----|--------|
| Propane | 74-98-6 | ND | 1,000 ppm | 4 | PASS |
| Isobutane | 75-28-5 | ND | 1,000 ppm | 4 | PASS |
| Butane | 106-97-8 | ND | 1,000 ppm | 4 | PASS |
| Methanol | 67-56-1 | ND | 3,000 ppm | 100 | PASS |
| Pentane | 109-66-0 | ND | 5,000 ppm | 100 | PASS |
| Ethanol | 64-17-5 | ND | 5,000 ppm | 100 | PASS |
| Acetone | 67-64-1 | ND | 5,000 ppm | 100 | PASS |
| Isopropanol | 67-63-0 | ND | 5,000 ppm | 100 | PASS |
| Acetonitrile | 75-05-8 | ND | 410 ppm | 100 | PASS |
| Hexane | 110-54-3 | ND | 290 ppm | 100 | PASS |
| Heptane | 142-82-5 | ND | 5,000 ppm | 100 | PASS |

1) ND = Not detected at a level greater than the Reporting Limit (RL).

2) In ppm, based on USP recommended limits for residual solvents, adopted by the Massachusetts Department of Public Health for cannabis concentrates and extracts on 3/31/16. Butane/Propane limits are based on limits established for state of Colorado.

(*) For ethanol, as many formulations contain flavorings based on ethanol extracts of natural products, no status has been assigned.

END OF REPORT