

Certificate ID: **89522**

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**CANNAFLOWER**

**40 University Way, Unit 40**

**Brattleboro, VT 05301**

Client Sample ID: **CF014**

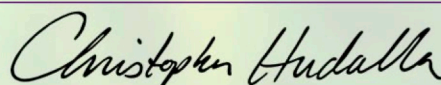
Lot Number:

Matrix: **Flowers/Bud - Dry Flower**

Authorization:

Chris Hudalla, Chief Science Officer

Signature:



Date:

12/14/2020



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: JFD**

**Test Date: 12/5/2020**

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.

**89522-CN**

| ID      | Weight % | Concentration (mg/g) |    |                                          |
|---------|----------|----------------------|----|------------------------------------------|
| D9-THC  | 0.143    | 1.43                 |    |                                          |
| THCV    | ND       | ND                   |    |                                          |
| CBD     | 0.818    | 8.18                 |    |                                          |
| CBDV    | ND       | ND                   |    |                                          |
| CBG     | 0.0302   | 0.302                |    |                                          |
| CBC     | 0.0964   | 0.964                |    |                                          |
| CBN     | ND       | ND                   |    |                                          |
| THCA    | 0.436    | 4.36                 |    |                                          |
| CBDA    | 18.0     | 180                  |    |                                          |
| CBGA    | 0.493    | 4.93                 |    |                                          |
| D8-THC  | ND       | ND                   |    |                                          |
| exo-THC | ND       | ND                   |    |                                          |
| Total   | 20.0     | 200                  | 0% | Cannabinoids (wt%) 18.0%                 |
| Max THC | 0.526    | 5.26                 |    | Limit of Quantitation (LOQ) = 0.0067 wt% |
| Max CBD | 16.6     | 166                  |    | Limit of Detection (LOD) = 0.0022 wt%    |

**Ratio of Total CBD to THC 31.6:1**

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:  $\text{Max THC} = (0.877 \times \text{THCA}) + \text{THC}$ . 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 LOQ.

**PST: Pesticide Analysis [WI-10-11]***Analyst: CJR**Test Date: 11/24/2020*

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).

**89522-PST**

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

Test Date: 11/23/2020

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.

**89522-TP**

| Compound            | CAS        | Conc. (wt%) | Conc. (ppm) | Qualitative Profile                                                                  |                |
|---------------------|------------|-------------|-------------|--------------------------------------------------------------------------------------|----------------|
| alpha-pinene        | 80-56-8    | 0.0343      | 343         |     |                |
| camphene            | 79-92-5    | 0.0011      | 11.4        |     |                |
| sabinene*           | 3387-41-5  | ND          | ND          |                                                                                      |                |
| beta-myrcene        | 123-35-3   | 0.362       | 3,620       |    |                |
| beta-pinene         | 127-91-3   | 0.0187      | 187         |     |                |
| alpha-phellandrene  | 99-83-2    | 0.0005      | 5.07        |     |                |
| delta-3-carene      | 13466-78-9 | ND          | ND          |                                                                                      |                |
| alpha-terpinene     | 99-86-5    | <RL         | <RL         |                                                                                      |                |
| alpha-ocimene       | 502-99-8   | 0.0017      | 16.6        |     |                |
| D-limonene          | 138-86-3   | 0.0326      | 326         |     |                |
| p-cymene            | 99-87-6    | ND          | ND          |                                                                                      |                |
| cis-beta-ocimene    | 3338-55-4  | 0.0620      | 620         |     |                |
| eucalyptol          | 470-82-6   | <RL         | <RL         |                                                                                      |                |
| gamma-terpinene     | 99-85-4    | <RL         | <RL         |                                                                                      |                |
| terpinolene         | 586-62-9   | <RL         | <RL         |                                                                                      |                |
| linalool            | 78-70-6    | 0.0351      | 351         |     |                |
| L-fenchone*         | 7787-20-4  | 0.0026      | 25.8        |   |                |
| isopulegol          | 89-79-2    | ND          | ND          |                                                                                      |                |
| menthol*            | 89-78-1    | ND          | ND          |                                                                                      |                |
| geraniol            | 106-24-1   | ND          | ND          |                                                                                      |                |
| beta-caryophyllene  | 87-44-5    | 0.186       | 1,860       |  |                |
| alpha-humulene      | 6753-98-6  | 0.0594      | 594         |   |                |
| cis-nerolidol       | 3790-78-1  | ND          | ND          |                                                                                      |                |
| trans-nerolidol     | 40716-66-3 | ND          | ND          |                                                                                      |                |
| guaial              | 489-86-1   | 0.0147      | 147         |   |                |
| caryophyllene oxide | 1139-30-6  | 0.0054      | 54.2        |   |                |
| alpha-bisabolol     | 23089-26-1 | 0.0213      | 213         |   |                |
|                     |            |             |             | wt%                                                                                  | 0.00 0.25 0.50 |

Total Terpene: 0.8 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.

**END OF REPORT**



**MA: Moisture Analysis [WI-10-25]**

Analyst: JA

Test Date: 11/8/2020

**89522-MA**Weight loss on drying: **7.8%**

The moisture content of the client sample was evaluated based on weight loss observed on heating. The recorded weight loss is due to the loss of water and volatiles (terpenes) observed upon sample drying.

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

Analyst: CJS

Test Date: 12/6/2020

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.

**89522-HM**

| Symbol | Metal   | Conc. <sup>1</sup> (µg/kg) | RL   | Use Limits <sup>2</sup> (µg/kg) |           | Status |
|--------|---------|----------------------------|------|---------------------------------|-----------|--------|
|        |         |                            |      | All                             | Ingestion |        |
| As     | Arsenic | ND                         | 50.0 | 200                             | 1,500     | PASS   |
| Cd     | Cadmium | ND                         | 50.0 | 200                             | 500       | PASS   |
| Hg     | Mercury | ND                         | 50.0 | 100                             | 1,500     | PASS   |
| Pb     | Lead    | 70.0                       | 50.0 | 500                             | 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.