

CERTIFICATE OF ANALYSIS

Project: Medical Cannabis
Order ID: 2019000235

Customer ID: 66331795
Customer Name: Botanical Hemp

Harvest/Extract Lot:
0122191000-2050

Cultivar (Strain): All Nat Broad
(1000)
Sample Date: 01/29/2019

Lab ID: 2019000879
Date Received: 01/29/2019

Sample Matrix: Oil/Tincture
Date Completed: 01/31/2019

Remarks:

Analysis Date/Time: 01-29-2019 1732
Analyst: KWF

Method: HPLC/UV
Instrument: Agilent 1100

Moisture Content (%): -
Water Activity (aw): - at - °C

| <u>Cannabinoid</u> | <u>Result</u> <u>(%)</u> | <u>Result</u> <u>(mg/mL)</u> | <u>Reporting Limit</u> <u>(mg/mL)</u> | <u>Per Unit</u> <u>(mg)</u> |
|--------------------|-----------------------------|---------------------------------|--|--------------------------------|
| CBD | 3.60 | 36.0 | 0.05 | 1081 |
| CBDa | <RL | <RL | 0.05 | - |
| CBDv | <RL | <RL | 0.05 | - |
| Δ9-THC | <RL | <RL | 0.05 | - |
| Δ8-THC | <RL | <RL | 0.05 | - |
| THCa | <RL | <RL | 0.05 | - |
| CBC | 0.148 | 1.48 | 0.05 | 44.5 |
| CBG | <RL | <RL | 0.05 | - |
| CBGa | <RL | <RL | 0.05 | - |
| CBN | 0.0320 | 0.320 | 0.05 | 9.60 |
| TOTAL | 7.60 | 37.8 | | 1135 |

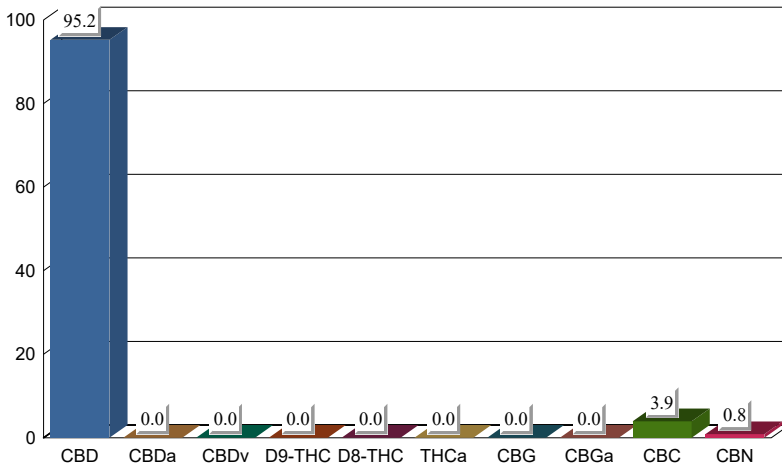


TOTAL THC <RL <RL -
TOTAL CBD 3.60 36.0 1081

UNIT VOLUME (mL): 30.0

Deviations from standard operating procedure: None

Cannabinoid Distribution
(% of Total Cannabinoids)



Recoveries for all analyte standards: 90-110%
Replicate Uncertainties: <5% RSD, <20% RPD
Sample/Reagent Blanks: <RL for all analytes

Values for plant matter are adjusted for moisture content.

Total THC = (THCa x 0.877) + Δ9-THC
Total CBD = (CBDa x 0.877) + CBD

Percentage results are reported by mass.
mg/g results are reported as mass component per mass material.

Abbreviations: UV - Ultraviolet, HPLC - High Pressure Liquid Chromatography, RL - Reporting Limit, RPD - Relative Percent Difference, RSD - Relative Standard Deviation

REPORT OF LABORATORY ANALYSIS

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Felling Analytical Services and Technology (F.A.S.T.), LLC

Kyle W. Felling
Kyle W. Felling, Ph.D.
Laboratory Director

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Remarks:

TERPENOID PROFILE

Analysis Date/Time: 01-30-2019 0403
Analyst: KWF

Method: HS/GC/MS (Internal Method-002)
Instrument: Agilent 7890/5975

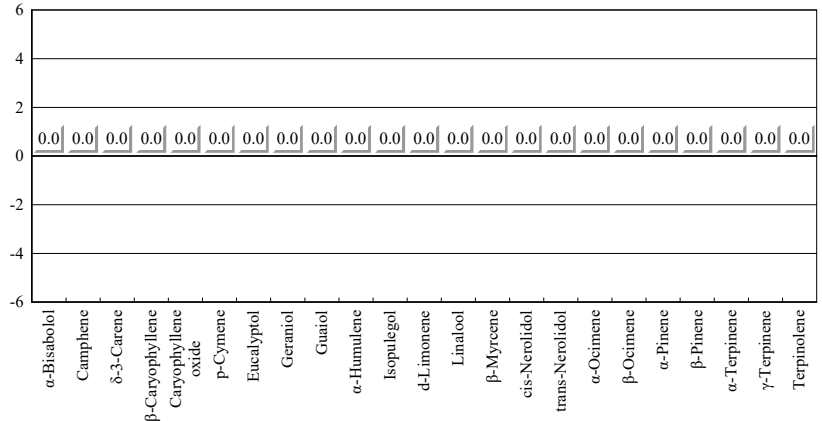
Deviations from SOP:
None

| <u>Terpene</u> | <u>Result</u> ($\mu\text{g/g}$) | <u>Result</u> (%, total terpenes) |
|------------------------|--------------------------------------|--------------------------------------|
| α -Bisabolol | - | - |
| Camphene | - | - |
| δ -3-Carene | - | - |
| β -Caryophyllene | - | - |
| Caryophyllene oxide | - | - |
| p-Cymene | - | - |
| Eucalyptol | - | - |
| Geraniol | - | - |
| Guaiol | - | - |
| α -Humulene | - | - |
| Isopulegol | - | - |
| d-Limonene | - | - |
| Linalool | - | - |
| β -Myrcene | - | - |
| cis-Nerolidol | - | - |
| trans-Nerolidol | - | - |
| α -Ocimene | - | - |
| β -Ocimene | - | - |
| α -Pinene | - | - |
| β -Pinene | - | - |
| α -Terpinene | - | - |
| γ -Terpinene | - | - |
| Terpinolene | - | - |
| TOTAL | - | - |



Terpenoid Distribution

(% of Total Terpenes)



Reporting Limit ($\mu\text{g/g}$)

17

Abbreviations: HS - Headspace, GC - Gas Chromatography, MS - Mass Spectrometry, RL - Reporting Limit

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