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CERTIFICATE OF ANALYSIS

Project: Medical Cannabis
Order ID: 2019000639

Customer ID: 45395636
Customer Name: Roughneck City

Harvest/Extract Lot:
Harvest/Extract Date:

Cultivar (Strain): Gold Leaf
Sample Date: 03/07/2019

Lab ID: 2019002211
Date Received: 03/07/2019

Sample Matrix: Flower
Date Completed: 03/12/2019

Remarks:

Analysis Date/Time: 03-08-2019 1149
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/g)</u>	<u>Reporting Limit</u> <u>(mg/g)</u>	<u>Per Unit</u> <u>(mg)</u>
CBD	<RL	<RL	0.050	-
CBDa	0.0823	0.823	0.050	0.820
CBDv	0.146	1.46	0.050	1.46
Δ9-THC	0.487	4.87	0.050	4.87
Δ8-THC	<RL	<RL	0.050	-
THCa	18.5	185	0.050	185
CBC	0.0224	0.224	0.050	0.220
CBG	0.125	1.25	0.050	1.25
CBGa	0.798	7.98	0.050	7.98
CBN	<RL	<RL	0.050	-
TOTAL	20.1	201		201

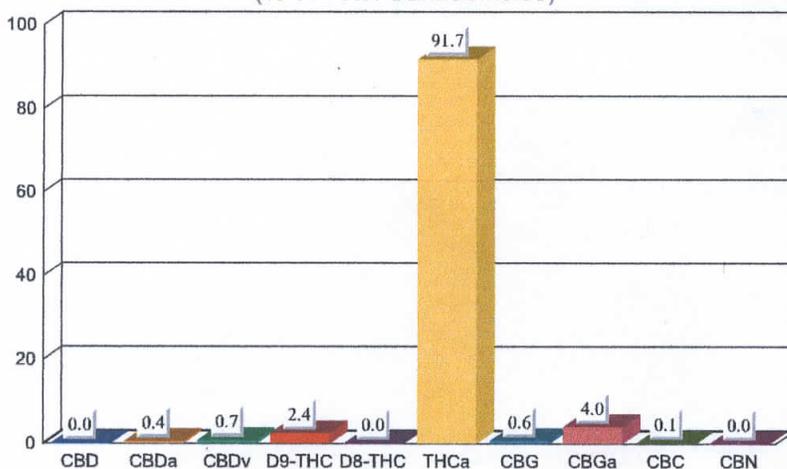


TOTAL THC 16.7 167 167
TOTAL CBD 0.0722 0.722 0.720

UNIT MASS (g): 1.00

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

This information is provided as a service and makes no claims of efficacy and/or safety of this product. Results are applicable only for the sample(s) analyzed and for the specific analysis conducted. This report is for informational purposes only and should not be used to diagnose, treat, or prevent any medical-related symptoms. The statements and results herein have not been approved and/or endorsed by the FDA.

REPORT OF LABORATORY ANALYSIS

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

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Remarks:

TERPENOID PROFILE

Analysis Date/Time: 03-08-2019 0015 **Method:** HS/GC/MS (Internal Method-002)
Analyst: KWF **Instrument:** Agilent 7890/5975

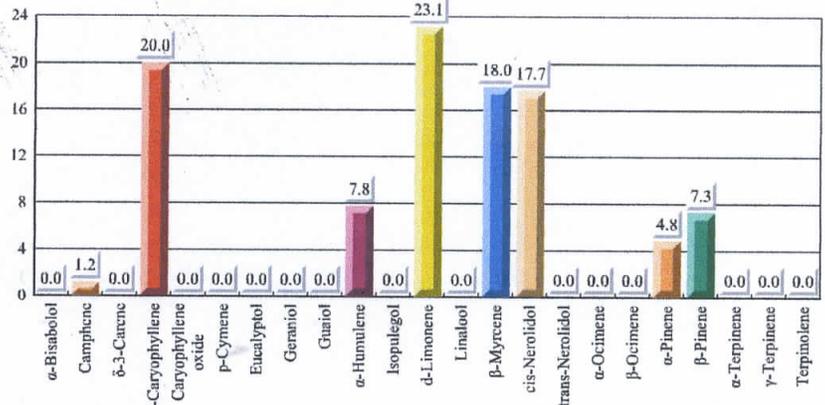
Deviations from SOP:
None

<u>Terpene</u>	<u>Result</u> ($\mu\text{g/g}$)	<u>Result</u> (%, total terpenes)
α -Bisabolol	-	-
Camphene	72.4	1.17
δ -3-Carene	-	-
β -Caryophyllene	1243	20.0
Caryophyllene oxide	-	-
p-Cymene	-	-
Eucalyptol	-	-
Geraniol	-	-
Guaiol	-	-
α -Humulene	482	7.76
Isopulegol	-	-
d-Limonene	1438	23.1
Linalool	-	-
β -Myrcene	1121	18.0
cis-Nerolidol	1101	17.7
trans-Nerolidol	-	-
α -Ocimene	-	-
β -Ocimene	-	-
α -Pinene	301	4.85
β -Pinene	453	7.30
α -Terpinene	-	-
γ -Terpinene	-	-
Terpinolene	-	-
TOTAL	6211	100



Terpenoid Distribution

(% of Total Terpenes)



Reporting Limit ($\mu\text{g/g}$) 13

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

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