



Certificate ID: **48281**

Received: **2/11/19**

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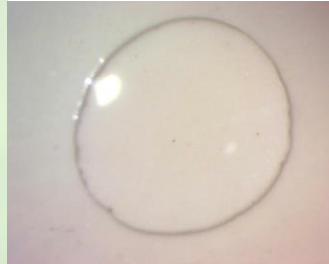
**Rock n' Roots Farm**  
**39714 Fruitland Mesa Rd**  
**Crawford, CO 81415**  
**Attn: Jonathan Orlando**

Client Sample ID: **RR1oz.1000**

Lot Number: **1.1000.02.09.19.**

Matrix: **Tincture - MCT Oil**

Authorization: Jon Podgorni, Lab Manager	Signature: <i>Jon Podgorni</i>	Date: 2/18/2019
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The data contained within this report was collected in accordance with the requirements of ISO/IEC17025:2005. 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: LG*      *Test Date: 2/15/2019*

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.

**48281-CN**

ID	Weight %	Conc.		
D9-THC	0.14 wt %	1.34 mg/mL		
THCV	ND	ND		
CBD	3.06 wt %	28.26 mg/mL		
CBDV	0.02 wt %	0.20 mg/mL		
CBG	0.09 wt %	0.83 mg/mL		
CBC	0.14 wt %	1.33 mg/mL		
CBN	ND	ND		
THCA	ND	ND		
CBDA	0.66 wt %	6.11 mg/mL		
CBGA	0.04 wt %	0.33 mg/mL		
D8-THC	ND	ND		
exo-THC	ND	ND		
<b>Total</b>	<b>4.15 wt%</b>	<b>38.39 mg/mL</b>	<b>0%</b>	<b>Cannabinoids (wt%) 3.1%</b>
Max THC	0.14 wt%	1.34 mg/mL		
Max CBD	3.63 wt%	33.62 mg/mL		

**Ratio of Total CBD to THC 25.2:1**

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 x THCA) + THC. This calculation does not include other cannabinoid isomers (eg. D8-THC and exo-THC). ND = None detected above the limits of detection (LLD)

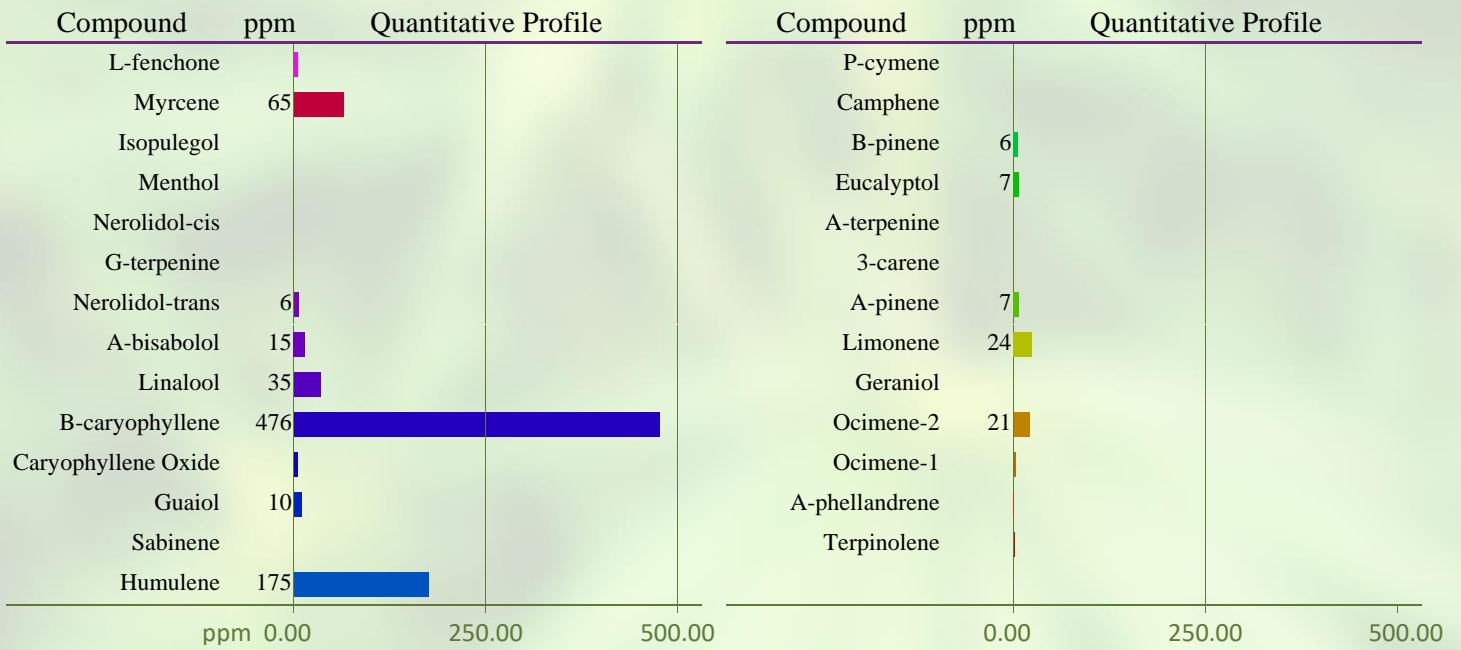
**TP: Terpenes Profile [W1-10-08]**

Analyst: CMA

Test Date: 2/14/2019

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.

**48281-TP**



Total Terpene: 0.1 wt%

\* Indicates semi-quantitative calculation based on recorded peak areas.

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.

**48281-VC**

Compound	CAS	Amount <sup>1</sup>	Limit <sup>2</sup>	RL	Status
Propane	74-98-6	ND	1,000 ppm	2	PASS
Isobutane	75-28-5	ND	1,000 ppm	2	PASS
Butane	106-97-8	ND	1,000 ppm	2	PASS
Methanol	67-56-1	ND	3,000 ppm	20	PASS
Ethanol	64-17-5	98 ppm	5,000 ppm	20	PASS
Acetone	67-64-1	ND	1,000 ppm	20	PASS
Isopropanol	67-63-0	ND	5,000 ppm	20	PASS
Acetonitrile	75-05-8	ND	410 ppm	20	PASS
Hexane	110-54-3	ND	290 ppm	20	PASS
Heptane	142-82-5	ND	5,000 ppm	20	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 on 3/31/16. Butane/Propane limits are based on limits established for state of Colorado.

**END OF REPORT**