



Certificate ID: **73486 (Prelim)**

Received: **12/16/19**

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Client Sample ID: **NED-SH-12-2019-2**

Lot Number: **502#3**

Matrix: **Concentrates/Extracts - Alcohol**

Authorization: Elizabeth R. Wagoner, Lab Director	Signature: 	Date: 12/26/2019
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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: **MAM** Test Date: **12/19/2019**

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.

73486-CN

ID	Weight %	Concentration (mg/g)		
D9-THC	1.91	19.12		
THCV	ND	ND		
CBD	70.70	706.98		
CBDV	0.44	4.44		
CBG	1.60	16.04		
CBC	1.88	18.84		
CBN	ND	ND		
THCA	ND	ND		
CBDA	0.38	3.77		
CBGA	ND	ND		
D8-THC	ND	ND		
exo-THC	ND	ND		
Total	76.92	769.19	0%	Cannabinoids (wt%) 70.7%
Max THC	1.91	19.12		
Max CBD	71.03	710.28		

Ratio of Total CBD to THC 37.2:1

Limit of Quantitation (LOQ) = 0.10 wt%

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 (LOD), which is half of LOQ.

EA: Elemental Analysis [WI-10-13]

Analyst: CJS

Test Date: 12/20/2019

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.

73486-EA

Symbol	Metal	Conc. ¹ (µg/kg)	RL (µg/kg)	Limits ² (µg/kg)	Status
Al	Aluminum	536	50	-	
As	Arsenic	ND	50	1,500	PASS
Cd	Cadmium	ND	50	500	PASS
Ca	Calcium	23,671	500	-	
Cr	Chromium	ND	50	1,100,000	PASS
Co	Cobalt	ND	50	5,000	PASS
Cu	Copper	320	50	300,000	PASS
Fe	Iron	5,232	50	-	
Pb	Lead	ND	50	500	PASS
Mg	Magnesium	43,322	50	-	
Mn	Manganese	783	50	-	
Hg	Mercury	ND	50	3,000	PASS
Mo	Molybdenum	ND	50	300,000	PASS
Ni	Nickel	79	50	20,000	PASS
P	Phosphorus	15,031	500	-	
K	Potassium	1,498,784	500	-	
Se	Selenium	ND	50	-	
Ag	Silver	ND	50	15,000	PASS
S	Sulfur	ND	500	-	
Sn	Tin	601	500	600,000	PASS
Zn	Zinc	3,888	50	-	

1) ND = None detected to the Method Detection Limit (MDL)

2) USP recommended maximum daily limits for oral drug product.

MB1: Microbiological Contaminants [WI-10-09]

Analyst: MM

Test Date: 12/18/2019

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73486-MB1

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

Note: All recorded Microbiological tests are within the established limits.

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

Analyst: LabAdmin

Test Date: 12/19/2019

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.

73486-MB2

Test ID	Analysis	Results	Units	Limits*	Status
73486-ECPT	E. coli (O157)	Negative	NA	Non Detected	PASS
73486-SPT	Salmonella	Negative	NA	Non Detected	PASS

Note: All recorded pathogenic bacteria tests passed.

MY: Mycotoxin Testing [WI-10-05]

Analyst: AEM

Test Date: 12/20/2019

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.

73486-MY

Test ID	Date	Results	MDL	Limits	Status*
Total Aflatoxin	12/20/2019	< MDL	2 ppb	< 20 ppb	PASS
Total Ochratoxin	12/20/2019	3.9	3 ppb	< 20 ppb	PASS

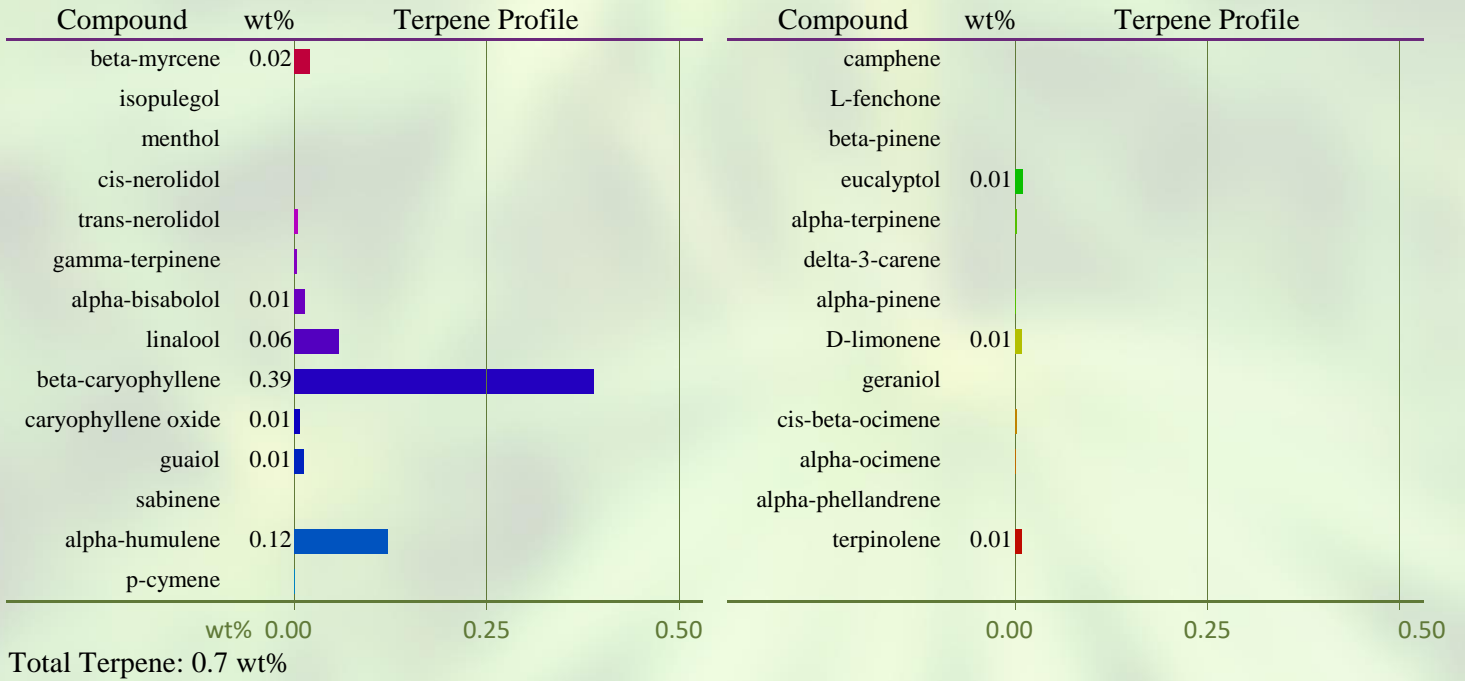
TP: Terpenes Profile [WI-10-27]

Analyst: JR

Test Date: 12/20/2019

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. All values are semiquantitative estimates based on recorded peak areas relative to terpene calibration data.

73486-TP



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

Analyst: JR

Test Date: 12/17/2019

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.

73486-VC

Compound	CAS	Amount ¹	Limit ²	RL	Status
Propane	74-98-6	ND	1,000 ppm	100	PASS
Isobutane	75-28-5	ND	1,000 ppm	100	PASS
Butane	106-97-8	ND	1,000 ppm	100	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	10,293 ppm	5,000 ppm	100	*
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
Ethyl Acetate	141-78-6	990 ppm	5,000 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