

Certificate ID: **59418 (Reissued)** Received: **7/15/19**

 Client Sample ID: **190120RE**

Lot Number:

 Matrix: **Concentrates/Extracts - Isolate**


Authorization: Jon Podgorni, Lab Manager	Signature: <i>Jon Podgorni</i>	Date: 8/9/2019
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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: *JSG*

 Test Date: *7/16/2019*

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.

**59418-CN**

ID	Weight %	Concentration (mg/g)	
D9-THC	ND	ND	
THCV	ND	ND	
CBD	99.26	992.60	
CBDV	0.19	1.90	
CBG	ND	ND	
CBC	0.02	0.15	
CBN	ND	ND	
THCA	ND	ND	
CBDA	ND	ND	
CBGA	ND	ND	
D8-THC	ND	ND	
exo-THC	ND	ND	
<b>Total</b>	<b>99.47</b>	<b>994.65</b>	<b>0% Cannabinoids (wt%) 99.3%</b>
Max THC	-	-	
Max CBD	99.26	992.60	

Limit of Quantitation (LOQ) = 0.005 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 (LLD)



**EA: Elemental Analysis [WI-10-13]**

Analyst: JFD

Test Date: 7/19/2019

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**59418-EA**

Symbol	Metal	Conc. <sup>1</sup>	MDL	Limits <sup>2</sup>	Status
Al	Aluminum	564 ug/kg	5 ug/kg	-	
As	Arsenic	ND	4 ug/kg	150 ug/kg	PASS
Cd	Cadmium	ND	1 ug/kg	150 ug/kg	PASS
Ca	Calcium	3,053 ug/kg	500 ug/kg	-	
Cr	Chromium	71 ug/kg	5 ug/kg	2500 ug/kg	PASS
Co	Cobalt	ND	10 ug/kg	-	
Cu	Copper	ND	500 ug/kg	10000 ug/kg	PASS
Fe	Iron	382 ug/kg	5 ug/kg	-	
Pb	Lead	3 ug/kg	2 ug/kg	500 ug/kg	PASS
Mg	Magnesium	6,674 ug/kg	500 ug/kg	-	
Mn	Manganese	ND	500 ug/kg	-	
Hg	Mercury	ND	2 ug/kg	150 ug/kg	PASS
Mo	Molybdenum	ND	50 ug/kg	1000 ug/kg	PASS
Ni	Nickel	ND	50 ug/kg	150 ug/kg	PASS
P	Phosphorus	2,747 ug/kg	500 ug/kg	-	
K	Potassium	339 ug/kg	5 ug/kg	-	
Se	Selenium	ND	10 ug/kg	-	
Ag	Silver	ND	10 ug/kg	-	
S	Sulfur	672 ug/kg	5 ug/kg	-	
Sn	Tin	ND	5000 ug/kg	-	
Zn	Zinc	391 ug/kg	5 ug/kg	-	

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

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



**MB1: Microbiological Contaminants [WI-10-09]**

Analyst: MM

Test Date: 7/16/2019

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**59418-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: 7/17/2019

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**59418-MB2**

Test ID	Analysis	Results	Units	Limits*	Status
59418-ECPT	E. coli (O157)	Negative	NA	Non Detected	PASS
59418-SPT	Salmonella	Negative	NA	Non Detected	PASS

Note: All recorded pathogenic bacteria tests passed.

**MY: Mycotoxin Testing [WI-10-05]**

Analyst: AKR

Test Date: 7/18/2019

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**59418-MY**

Test ID	Date	Results	MDL	Limits	Status*
Total Aflatoxin	7/18/2019	< MDL	2 ppb	< 20 ppb	PASS
Total Ochratoxin	7/18/2019	< MDL	3 ppb	< 20 ppb	PASS



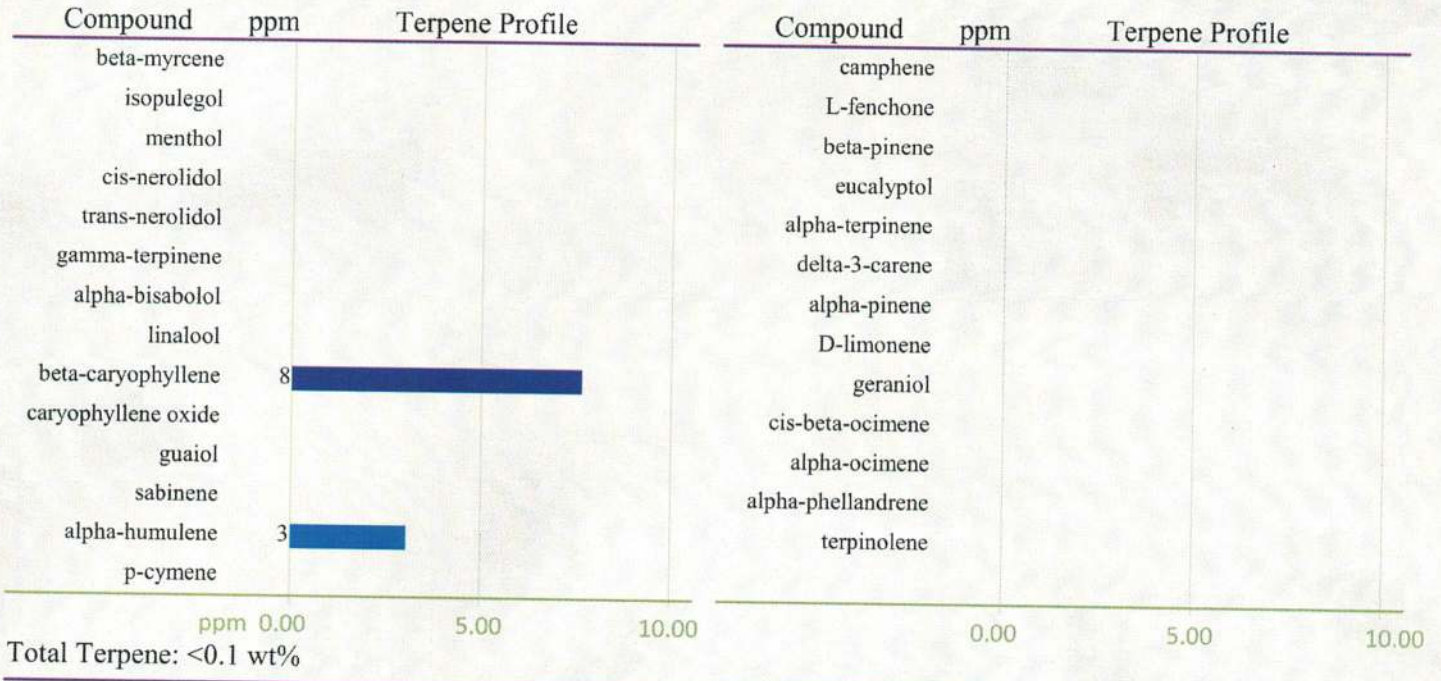
**TP: Terpenes Profile [WI-10-27]**

Analyst: CMA

Test Date: 7/18/2019

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.

**59418-TP**





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

Analyst: CMA

Test Date: 7/17/2019

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. Reissued to show additional data for Toluene and Xylenes.

**59418-VC**

Compound	CAS	Amount <sup>1</sup>	Limit <sup>2</sup>	RL	Status
Propane	74-98-6	ND	1,000 ppm	200	PASS
Isobutane	75-28-5	ND	1,000 ppm	200	PASS
Butane	106-97-8	ND	1,000 ppm	200	PASS
Methanol	67-56-1	ND	3,000 ppm	200	PASS
Pentane	109-66-0	ND	5,000 ppm	200	PASS
Ethanol	64-17-5	ND	5,000 ppm	200	PASS
Acetone	67-64-1	ND	5,000 ppm	200	PASS
Isopropanol	67-63-0	ND	5,000 ppm	200	PASS
Acetonitrile	75-05-8	ND	410 ppm	200	PASS
Hexane	110-54-3	ND	290 ppm	200	PASS
Heptane	142-82-5	ND	5,000 ppm	200	PASS
Toluene	108-88-3	ND	890 ppm	200	PASS
m,p-Xylenes	179601-23-1	ND	N/A	2	-
o-Xylene	85-47-6	ND	N/A	2	-

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**