

Certificate ID: **23759**

 Client Sample ID: **Powder 111017**

 Matrix: **Concentrates/Extracts - Isolate**

 Date Received: **11/13/2017**

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.

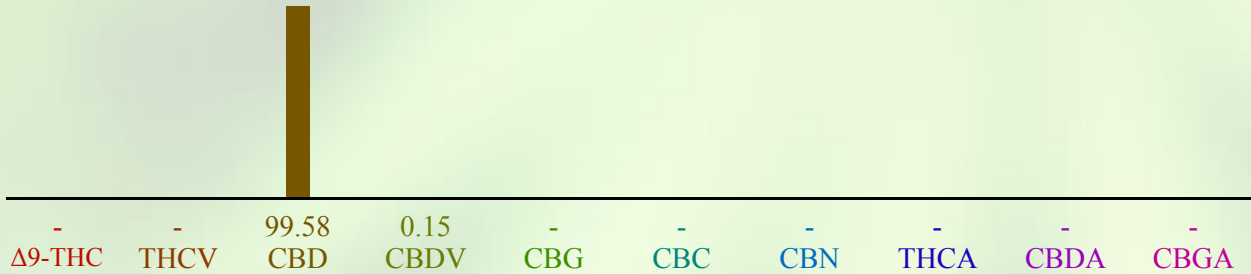
Authorization: Chris Hudalla, Chief Science Officer	Signature: 	Date: 11/22/2017
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CN: Cannabinoid Profile & Potency [WI-10-04]

Analyst: JDP

Test Date: 11/21/2017

The client sample was analyzed for plant-based cannabinoids by Convergence Chromatography (CC). The collected data was compared to data collected for certified reference standards at known concentrations.

23759-CN


ID	Weight %	Conc.
Δ9-THC	-	-
THCV	-	-
CBD	99.58 wt %	995.80 mg/g
CBDV	0.15 wt %	1.49 mg/g
CBG	-	-
CBC	-	-
CBN	-	-
THCA	-	-
CBDA	-	-
CBGA	-	-
Total	99.73 wt%	997.29 mg/g
Max THC	-	-
Max CBD	99.58 wt%	995.80 mg/g



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. ND = None detected above the limits of detection (LLD)

EA: Elemental Analysis [WI-10-13]

Analyst: JFD

Test Date: 11/22/2017

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23759-EA

Symbol	Metal	Conc. ¹	MDL	Limits ²	Status
Al	Aluminum	888 ug/kg	5 ug/kg	-	
As	Arsenic	ND	4 ug/kg	1500 ug/kg	PASS
Cd	Cadmium	ND	1 ug/kg	1500 ug/kg	PASS
Ca	Calcium	ND	500 ug/kg	-	
Cr	Chromium	368 ug/kg	5 ug/kg	25000 ug/kg	PASS
Co	Cobalt	ND	10 ug/kg	-	
Cu	Copper	ND	500 ug/kg	100000 ug/kg	PASS
Fe	Iron	1,737 ug/kg	5 ug/kg	-	
Pb	Lead	45 ug/kg	2 ug/kg	5000 ug/kg	PASS
Mg	Magnesium	ND	500 ug/kg	-	
Mn	Manganese	ND	500 ug/kg	-	
Hg	Mercury	ND	2 ug/kg	1500 ug/kg	PASS
Mo	Molybdenum	ND	5000 ug/kg	10000 ug/kg	PASS
Ni	Nickel	ND	500 ug/kg	1500 ug/kg	PASS
P	Phosphorus	4,991 ug/kg	500 ug/kg	-	
K	Potassium	246 ug/kg	5 ug/kg	-	
Se	Selenium	ND	10 ug/kg	-	
Ag	Silver	ND	10 ug/kg	-	
S	Sulfur	ND	5 ug/kg	-	
Sn	Tin	ND	5000 ug/kg	-	
Zn	Zinc	578 ug/kg	5 ug/kg	-	

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

2) USP recommended limits for Elemental Analysis.

MB1: Microbiological Contaminants [WI-10-09]

Analyst: I-Jen

Test Date: 11/13/2017

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23759-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

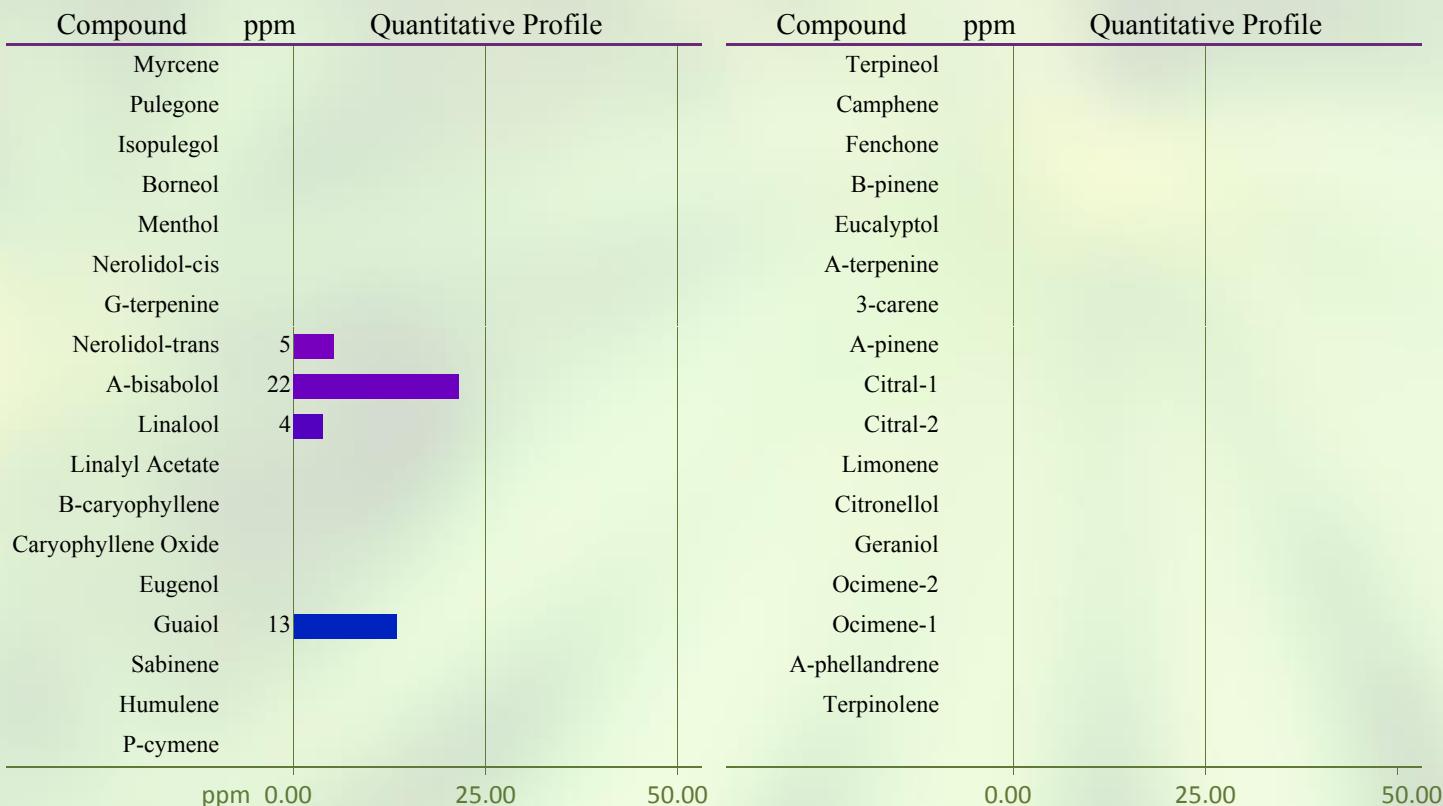
Note: All recorded Microbiological tests are within the established limits.

TP: Terpenes Profile [WI-10-08]

Analyst: CJH

Test Date: 11/20/2017

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.

23759-TP

Total Terpene: <0.1 wt%

* Indicates qualitative calculation based on recorded peak areas.

VC: Analysis of Volatile Organic Compounds [WI-10-07]

Analyst: CJH

Test Date: 11/16/2017

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.

23759-VC

Compound	CAS	Amount ¹	Limit ²	Status
Methanol	67-56-1	ND	3,000 ppm	PASS
Ethanol	64-17-5	ND	5,000 ppm	PASS
Acetone	67-64-1	ND	5,000 ppm	PASS
Isopropanol	67-63-0	ND	5,000 ppm	PASS

1) ND = None detected above 5 ppm.

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