

CERTIFICATE OF ANALYSIS



SAMPLE NAME: VAN HELSING (FLOWER)

SAMPLE CODE: CAN-231228-021

CLIENT: GRASSHOPPER FARMS | AU-G-C-000362

BATCH RESULT: PASS

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Traverse City, MI 49686
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License #: AU-SC-000112



TEST PACKAGE:

1A405030001AF43000016417

MATRIX NAME:

Flower

SAMPLE TYPE:

Compliance

RECEIVED DATE:

Thu, Dec 28, 2023

PUBLISHED DATE:

Tue, Jan 02, 2024

SOURCE PACKAGE:

1A405030001AF43000016404

BATCH CODE:

N/A

BATCH SIZE:

22480.04 g

SAMPLE SIZE:

113.78 g



POT

LAB-TM-025

Cannabinoid Potency



MET

LAB-TM-005

Heavy Metals



TRP

LAB-TM-012

Terpenes



ASP

LAB-TM-006

Aspergillus - qPCR



COL

LAB-TM-026

Total Coliforms - Plate



PGC

LAB-TM-003

Chemical Residue - MI
Cannabis - GC/TQ



PLC

LAB-TM-002

Chemical Residue - MI
Cannabis - LC/TQ



FOR

LAB-TM-007

Foreign Matter & Filth



TYM

LAB-TM-015

Total Yeast & Mold - Plate



SS

LAB-TM-006

Salmonella & Shiga Toxin
Producing E.Coli (STEC) -
qPCR



AWA

LAB-TM-009

Water Activity

RESULTS REVIEWED BY: Leslie Varela

Laboratory Director
Cambium Analytica
Tue, Jan 02, 2024

RESULTS REVIEWED BY: Douglas Smith

VP - Scientific Operations
Cambium Analytica
Tue, Jan 02, 2024

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LAB-TM-025 - Determination of Potency of Cannabis and Cannabis Infused Products ACN

POT-CAN-231228-021-01 - Thu, Dec 28, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Total Cannabinoids	30.9838 %	N/A	N/A	N/A	N/A
Total THC	26.348 %	N/A	N/A	N/A	N/A
THCA	22.7434 %	N/A	0.4497 ug/g	4.9472 ug/g	N/A
Delta-9 THC	6.402 %	N/A	0.4945 ug/g	1.516 ug/g	N/A
CBGA	1.5009 %	N/A	0.4596 ug/g	4.8149 ug/g	N/A
CBG	0.2633 %	N/A	0.2073 ug/g	0.8539 ug/g	N/A
CBDA	0.054 %	N/A	0.0886 ug/g	0.2949 ug/g	N/A
Total CBD	0.0474 %	N/A	N/A	N/A	N/A
CBC	0.0203 %	N/A	0.4372 ug/g	4.843 ug/g	N/A
CBD	ND	N/A	0.6432 ug/g	5.401 ug/g	N/A
CBDV	ND	N/A	0.0919 ug/g	0.4418 ug/g	N/A
CBN	ND	N/A	0.3561 ug/g	4.3163 ug/g	N/A
Delta-8 THC	ND	N/A	0.4043 ug/g	4.5669 ug/g	N/A
Delta-8 THCV	ND	N/A	0.0504 ug/g	0.3393 ug/g	N/A
Delta-9 THCV	ND	N/A	0.2699 ug/g	0.4033 ug/g	N/A
Total THCV	ND	N/A	N/A	N/A	N/A

LAB-TM-005 - Determination of Heavy Metals in Cannabis and Cannabis-Infused Products by ICP-MS

MET-CAN-231228-021-01 - Thu, Dec 28, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Arsenic	0.006 ug/g	0.4 ug/g	0.198 ug/kg	0.662 ug/kg	PASS
Cadmium	0.022 ug/g	0.4 ug/g	0.082 ug/kg	0.272 ug/kg	PASS
Chromium	0.021 ug/g	1.2 ug/g	0.627 ug/kg	2.091 ug/kg	PASS
Copper	14.041 ug/g	N/A	0.155 ug/kg	0.515 ug/kg	N/A
Lead	0.026 ug/g	1 ug/g	0.282 ug/kg	0.282 ug/kg	PASS
Mercury	0.004 ug/g	0.2 ug/g	0.017 ug/kg	0.057 ug/kg	PASS
Nickel	0.405 ug/g	1 ug/g	0.321 ug/kg	1.071 ug/kg	PASS

LAB-TM-012 - Determination of Terpenes by GC-MS

TRP-CAN-231228-021-01 - Thu, Dec 28, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Total Terpenes	1.623 %	N/A	0.5 ug/g	1 ug/g	N/A
Trans Caryophyllene	0.627 %	N/A	0.5 ug/g	1 ug/g	N/A
Limonene	0.286 %	N/A	0.5 ug/g	1 ug/g	N/A
Alpha Humulene	0.264 %	N/A	0.5 ug/g	1 ug/g	N/A
Alpha Bisabolol	0.14 %	N/A	0.5 ug/g	1 ug/g	N/A
Alpha Terpineol	0.059 %	N/A	0.5 ug/g	1 ug/g	N/A
Alpha Pinene	0.054 %	N/A	0.5 ug/g	1 ug/g	N/A
Beta Pinene	0.054 %	N/A	0.5 ug/g	1 ug/g	N/A
1,R-Endo-Fenchyl Alcohol	0.041 %	N/A	0.5 ug/g	1 ug/g	N/A
Beta Myrcene	0.032 %	N/A	0.5 ug/g	1 ug/g	N/A
Caryophyllene Oxide	0.028 %	N/A	0.5 ug/g	1 ug/g	N/A
Cis Beta Ocimene	0.024 %	N/A	0.5 ug/g	1 ug/g	N/A
Linalool	0.014 %	N/A	0.5 ug/g	1 ug/g	N/A
Alpha Cedrene	ND	N/A	0.5 ug/g	1 ug/g	N/A
Alpha Phellandrene	ND	N/A	0.5 ug/g	1 ug/g	N/A
Alpha Terpinene	ND	N/A	0.5 ug/g	1 ug/g	N/A
Borneol	ND	N/A	0.5 ug/g	1 ug/g	N/A
Camphene	ND	N/A	0.5 ug/g	1 ug/g	N/A
Camphor	ND	N/A	0.5 ug/g	1 ug/g	N/A
Cedrol	ND	N/A	0.5 ug/g	1 ug/g	N/A
Cis Nerolidol	ND	N/A	0.5 ug/g	1 ug/g	N/A
Delta-3 Carene	ND	N/A	0.5 ug/g	1 ug/g	N/A
Eucalyptol	ND	N/A	0.5 ug/g	1 ug/g	N/A
Fenchone	ND	N/A	0.5 ug/g	1 ug/g	N/A
Gamma Terpinene	ND	N/A	0.5 ug/g	1 ug/g	N/A
Geranyl Acetate	ND	N/A	0.5 ug/g	1 ug/g	N/A

LAB-TM-012 - Determination of Terpenes by GC-MS

TRP-CAN-231228-021-01 - Thu, Dec 28, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Guaiol	ND	N/A	0.5 ug/g	1 ug/g	N/A
Isoborneol	ND	N/A	0.5 ug/g	1 ug/g	N/A
Isopulegol	ND	N/A	0.5 ug/g	1 ug/g	N/A
Pulegone	ND	N/A	0.5 ug/g	1 ug/g	N/A
Sabinene	ND	N/A	0.5 ug/g	1 ug/g	N/A
Sabinene Hydrate	ND	N/A	0.5 ug/g	1 ug/g	N/A
Terpinolene	ND	N/A	0.5 ug/g	1 ug/g	N/A
Trans Beta Ocimene	ND	N/A	0.5 ug/g	1 ug/g	N/A
Trans Nerolidol	ND	N/A	0.5 ug/g	1 ug/g	N/A
Valencene	ND	N/A	0.5 ug/g	1 ug/g	N/A

LAB-TM-006 - Microbial Analysis by qPCR

ASP-CAN-231228-021-01 - Thu, Dec 28, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Aspergillus Flavus	ND	Detection	N/A	N/A	PASS
Aspergillus Fumigatus	ND	Detection	N/A	N/A	PASS
Aspergillus Niger	ND	Detection	N/A	N/A	PASS
Aspergillus Spp	ND	Detection	N/A	N/A	PASS
Aspergillus Terreus	ND	Detection	N/A	N/A	PASS

LAB-TM-026 - Enumeration of Total Coliforms on 3M CC Plates

COL-CAN-231228-021-01 - Thu, Dec 28, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Total Coliforms	0 CFU/g	1000 CFU/g	N/A	N/A	PASS

LAB-TM-003 - Determination of Chemical Residue of Cannabis and Cannabis Infused Products by GC

PGC-CAN-231228-021-01 - Thu, Dec 28, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Chlorfenapyr	ND	1 ug/g	6.11 ug/kg	20.4 ug/kg	PASS
Methyl Parathion	ND	0.2 ug/g	3.12 ug/kg	10.5 ug/kg	PASS

LAB-TM-002 - Determination of Chemical Residue of Cannabis and Cannabis Infused Products by LC-TQ

PLC-CAN-231228-021-01 - Thu, Dec 28, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Abamectin	ND	0.5 ug/g	0.05 ug/g	0.1 ug/g	PASS
Acephate	ND	0.4 ug/g	0.05 ug/g	0.1 ug/g	PASS
Acequinocyl	ND	2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Acetamiprid	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Aldicarb	ND	0.4 ug/g	0.05 ug/g	0.1 ug/g	PASS
Azoxystrobin	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Bifenazate	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Bifenthrin	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Boscalid	ND	0.4 ug/g	0.05 ug/g	0.1 ug/g	PASS
Carbaryl	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Carbofuran	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Chlorantraniliprole	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Chlorpyrifos	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Clofentezine	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Cyfluthrin	ND	1 ug/g	0.05 ug/g	0.1 ug/g	PASS
Cypermethrin	ND	1 ug/g	0.05 ug/g	0.1 ug/g	PASS
Daminozide	ND	1 ug/g	0.05 ug/g	0.1 ug/g	PASS
Diazinon	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Dichlorvos	ND	1 ug/g	0.05 ug/g	0.1 ug/g	PASS
Dimethoate	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Ethoprophos	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Etofenprox	ND	0.4 ug/g	0.05 ug/g	0.1 ug/g	PASS

LAB-TM-002 - Determination of Chemical Residue of Cannabis and Cannabis Infused Products by LC-TQ

PLC-CAN-231228-021-01 - Thu, Dec 28, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Etoazole	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Fenoxycarb	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Fenpyroximate	ND	0.4 ug/g	0.05 ug/g	0.1 ug/g	PASS
Fipronil	ND	0.4 ug/g	0.05 ug/g	0.1 ug/g	PASS
Flonicamid	ND	1 ug/g	0.05 ug/g	0.1 ug/g	PASS
Fludioxonil	ND	0.4 ug/g	0.05 ug/g	0.1 ug/g	PASS
Hexythiazox	ND	1 ug/g	0.05 ug/g	0.1 ug/g	PASS
Imazalil	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Imidacloprid	ND	0.4 ug/g	0.05 ug/g	0.1 ug/g	PASS
Kresoxim Methyl	ND	0.4 ug/g	0.05 ug/g	0.1 ug/g	PASS
MGK-264	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Malathion	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Metalaxyl	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Methiocarb	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Methomyl	ND	0.4 ug/g	0.05 ug/g	0.1 ug/g	PASS
Myclobutanil	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Naled	ND	0.5 ug/g	0.05 ug/g	0.1 ug/g	PASS
Oxamyl	ND	1 ug/g	0.05 ug/g	0.1 ug/g	PASS
Paclobutrazol	ND	0.4 ug/g	0.05 ug/g	0.1 ug/g	PASS
Permethrins (Sum of Cis- and Trans-Permethrin)	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Phosmet	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Prallethrin	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Propiconazole	ND	0.4 ug/g	0.05 ug/g	0.1 ug/g	PASS
Propoxur	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Pyrethrins (Sum of Cinerin 1, Jasmolin 1, and Pyrethrin 1)	ND	1 ug/g	0.05 ug/g	0.1 ug/g	PASS
Pyrethrins Cinerin 1	ND	N/A	0.05 ug/g	0.1 ug/g	N/A

LAB-TM-002 - Determination of Chemical Residue of Cannabis and Cannabis Infused Products by LC-TQ

PLC-CAN-231228-021-01 - Thu, Dec 28, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Pyrethrins Jasmolin 1	ND	N/A	0.05 ug/g	0.1 ug/g	N/A
Pyrethrins Pyrethrin 1	ND	N/A	0.05 ug/g	0.1 ug/g	N/A
Pyridaben	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Spinosad	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Spinosad A	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Spinosad D	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Spiromesifen	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Spirotetramat	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Spiroxamine	ND	0.4 ug/g	0.05 ug/g	0.1 ug/g	PASS
Tebuconazole	ND	0.4 ug/g	0.05 ug/g	0.1 ug/g	PASS
Thiacloprid	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Thiamethoxam	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS
Trifloxystrobin	ND	0.2 ug/g	0.05 ug/g	0.1 ug/g	PASS

LAB-TM-007 - Foreign Matter and Filth Analysis

FOR-CAN-231228-021-01 - Thu, Dec 28, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Inorganic Matter	0 %	Detection	N/A	N/A	PASS
Organic Matter	0.2 %	2 %	N/A	N/A	PASS
Stems	1 %	5 %	N/A	N/A	PASS
Total Foreign Matter	1.2 %	N/A	N/A	N/A	N/A

LAB-TM-015 - Enumeration of Total Yeast and Mold on 3M RYM Plates

TYM-CAN-231228-021-01 - Thu, Dec 28, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Total Yeast and Mold	0 CFU/g	100000 CFU/g	<10	<10	PASS

LAB-TM-006 - Microbial Analysis by qPCR

SS-CAN-231228-021-01 - Thu, Dec 28, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Salmonella Spp	ND	Detection	N/A	N/A	PASS
Shiga Toxin Producing E. coli	ND	Detection	N/A	N/A	PASS

LAB-TM-009 - Determination of Water Activity

AWA-CAN-231228-021-01 - Thu, Dec 28, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Water Activity	0.525 aw	0.65 Awa	N/A	N/A	PASS