

CERTIFICATE OF ANALYSIS

SAMPLE NAME: MAC 1 (FLOWER)

SAMPLE CODE: CAN-231214-024

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:

1A405030001AF43000015500

MATRIX NAME:

Flower

SAMPLE TYPE:

Compliance

RECEIVED DATE:

Fri, Dec 15, 2023

PUBLISHED DATE:

Tue, Dec 19, 2023

SOURCE PACKAGE:

1A405030001AF43000015489

BATCH CODE:

N/A

BATCH SIZE:

22679.6185g

SAMPLE SIZE:

114.09g



LAB-TM-025

Cannabinoid Potency



LAB-TM-012

Terpenes



LAB-TM-005

Heavy Metals



LAB-TM-006
Aspergillus - qPCR



LAB-TM-026
Total Coliforms - Plate



LAB-TM-003
Chemical Residue - MI
Cannabis - GC/TQ



LAB-TM-002
Chemical Residue - MI
Cannabis - LC/TQ



LAB-TM-007
Foreign Matter & Filth



LAB-TM-015
Total Yeast & Mold -
Plate



LAB-TM-006
Salmonella & Shiga
Toxin Producing E.Coli
(STEC) - qPCR



LAB-TM-009
Water Activity

RESULTS REVIEWED BY: Leslie Varela
Laboratory Director
Cambium Analytica
Tuesday, Dec 19, 2023

RESULTS REVIEWED BY: Douglas Smith
VP - Scientific Operations
Cambium Analytica
Tue, Dec 19, 2023

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LAB-TM-025 - DETERMINATION OF POTENCY OF CANNABIS AND CANNABIS INFUSED PRODUCTS ACN
 POT-CAN-231214-024-01 - THU, DEC 14, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Total Cannabinoids	28.6475 %	N/A			N/A
THCA	24.4575 %	N/A	0.4497 ug/g	4.9472 ug/g	N/A
Total THC	23.4701 %	N/A			N/A
Delta-9 THC	2.0208 %	N/A	0.4945 ug/g	1.516 ug/g	N/A
CBGA	1.7433 %	N/A	0.4596 ug/g	4.8149 ug/g	N/A
CBG	0.3522 %	N/A	0.2073 ug/g	0.8539 ug/g	N/A
CBDA	0.0423 %	N/A	0.0886 ug/g	0.2949 ug/g	N/A
Total CBD	0.0371 %	N/A			N/A
CBC	0.0313 %	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	0.050425 ug/g	0.339339 ug/g	N/A
Delta-9 THCV	ND	N/A	0.269941 ug/g	0.403267 ug/g	N/A
Total THCV	ND	N/A			N/A



LAB-TM-012 - DETERMINATION OF TERPENES BY GC-MS

TRP-CAN-231214-024-01 - THU, DEC 14, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Total Terpenes	1.538 %	N/A	0.5 ug/g	1 ug/g	N/A
Limonene	0.502 %	N/A	0.5 ug/g	1 ug/g	N/A
Trans Caryophyllene	0.288 %	N/A	0.5 ug/g	1 ug/g	N/A
Alpha Bisabolol	0.183 %	N/A	0.5 ug/g	1 ug/g	N/A
Alpha Humulene	0.098 %	N/A	0.5 ug/g	1 ug/g	N/A
Alpha Pinene	0.085 %	N/A	0.5 ug/g	1 ug/g	N/A
Linalool	0.082 %	N/A	0.5 ug/g	1 ug/g	N/A
Beta Pinene	0.070 %	N/A	0.5 ug/g	1 ug/g	N/A
Alpha Terpineol	0.063 %	N/A	0.5 ug/g	1 ug/g	N/A
Beta Myrcene	0.050 %	N/A	0.5 ug/g	1 ug/g	N/A
1,R-Endo-Fenchyl Alcohol	0.040 %	N/A	0.5 ug/g	1 ug/g	N/A
Cis Beta Ocimene	0.037 %	N/A	0.5 ug/g	1 ug/g	N/A
Trans Nerolidol	0.030 %	N/A	0.5 ug/g	1 ug/g	N/A
Camphene	0.010 %	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
Camphor	ND	N/A	0.5 ug/g	1 ug/g	N/A
Caryophyllene Oxide	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
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
Valencene	ND	N/A	0.5 ug/g	1 ug/g	N/A



LAB-TM-005 - DETERMINATION OF HEAVY METALS IN CANNABIS AND CANNABIS-INFUSED PRODUCTS BY ICP-MS
MET-CAN-231214-024-01 - THU, DEC 14, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Arsenic	0.016 ug/g	0.4 ug/g	0.1985 ug/kg	0.6616 ug/kg	PASS
Cadmium	0.019 ug/g	0.4 ug/g	0.0817 ug/kg	0.2724 ug/kg	PASS
Chromium	0.023 ug/g	1.2 ug/g	0.6272 ug/kg	2.0907 ug/kg	PASS
Copper	11.007 ug/g	N/A	0.1546 ug/kg	0.5152 ug/kg	N/A
Lead	0.016 ug/g	1 ug/g	0.2817 ug/kg	0.2817 ug/kg	PASS
Mercury	0.003 ug/g	0.2 ug/g	0.0171 ug/kg	0.0571 ug/kg	PASS
Nickel	0.608 ug/g	1 ug/g	0.3213 ug/kg	1.0709 ug/kg	PASS

LAB-TM-006 - MICROBIAL ANALYSIS BY QPCR
ASP-CAN-231214-024-01 - THU, DEC 14, 2023



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

LAB-TM-026 - ENUMERATION OF TOTAL COLIFORMS ON 3M CC PLATES
COL-CAN-231214-024-01 - THU, DEC 14, 2023



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

LAB-TM-003 - DETERMINATION OF CHEMICAL RESIDUE OF CANNABIS AND CANNABIS INFUSED PRODUCTS BY GC
PGC-CAN-231214-024-01 - THU, DEC 14, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Chlorfenapyr	ND	1 ug/g	6.110 ug/kg	20.400 ug/kg	PASS
Methyl Parathion	ND	0.2 ug/g	3.120 ug/kg	10.500 ug/kg	PASS



LAB-TM-002 - DETERMINATION OF CHEMICAL RESIDUE OF CANNABIS AND CANNABIS INFUSED PRODUCTS BY LC-TQ
 PLC-CAN-231214-024-01 - THU, DEC 14, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Abamectin	ND	0.5 ug/g	0.05 ug/g	0.10 ug/g	PASS
Acephate	ND	0.4 ug/g	0.05 ug/g	0.10 ug/g	PASS
Acequinocyl	ND	2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Acetamiprid	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Aldicarb	ND	0.4 ug/g	0.05 ug/g	0.10 ug/g	PASS
Azoxystrobin	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Bifenazate	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Bifenthrin	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Boscalid	ND	0.4 ug/g	0.05 ug/g	0.10 ug/g	PASS
Carbaryl	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Carbofuran	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Chlorantraniliprole	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Chlorpyrifos	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Clofentezine	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Cyfluthrin	ND	1 ug/g	0.05 ug/g	0.10 ug/g	PASS
Cypermethrin	ND	1 ug/g	0.05 ug/g	0.10 ug/g	PASS
Daminozide	ND	1 ug/g	0.05 ug/g	0.10 ug/g	PASS
Diazinon	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Dichlorvos	ND	1 ug/g	0.05 ug/g	0.10 ug/g	PASS
Dimethoate	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Ethoprophos	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Etofenprox	ND	0.4 ug/g	0.05 ug/g	0.10 ug/g	PASS
Etoxazole	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Fenoxycarb	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Fenpyroximate	ND	0.4 ug/g	0.05 ug/g	0.10 ug/g	PASS
Fipronil	ND	0.4 ug/g	0.05 ug/g	0.10 ug/g	PASS
Flonicamid	ND	1 ug/g	0.05 ug/g	0.10 ug/g	PASS
Fludioxonil	ND	0.4 ug/g	0.05 ug/g	0.10 ug/g	PASS
Hexythiazox	ND	1 ug/g	0.05 ug/g	0.10 ug/g	PASS
Imazalil	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Imidacloprid	ND	0.4 ug/g	0.05 ug/g	0.10 ug/g	PASS
Kresoxim Methyl	ND	0.4 ug/g	0.05 ug/g	0.10 ug/g	PASS
Malathion	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Metalaxyl	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Methiocarb	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Methomyl	ND	0.4 ug/g	0.05 ug/g	0.10 ug/g	PASS
MGK-264	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Myclobutanil	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Naled	ND	0.5 ug/g	0.05 ug/g	0.10 ug/g	PASS
Oxamyl	ND	1 ug/g	0.05 ug/g	0.10 ug/g	PASS
Paclobutrazol	ND	0.4 ug/g	0.05 ug/g	0.10 ug/g	PASS
Permethrins (Sum of Cis- and Trans-Permethrin)	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS



LAB-TM-002 - DETERMINATION OF CHEMICAL RESIDUE OF CANNABIS AND CANNABIS INFUSED PRODUCTS BY LC-TQ
 PLC-CAN-231214-024-01 - THU, DEC 14, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Phosmet	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Prallethrin	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Propiconazole	ND	0.4 ug/g	0.05 ug/g	0.10 ug/g	PASS
Propoxur	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Pyrethrins (Sum of Cinerin 1, Jasmolin 1, and Pyrethrin 1)	ND	1 ug/g	0.05 ug/g	0.10 ug/g	PASS
Pyrethrins Cinerin 1	ND	N/A	0.05 ug/g	0.10 ug/g	N/A
Pyrethrins Jasmolin 1	ND	N/A	0.05 ug/g	0.10 ug/g	N/A
Pyrethrins Pyrethrin 1	ND	N/A	0.05 ug/g	0.10 ug/g	N/A
Pyridaben	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Spinosad	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Spinosad A	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Spinosad D	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Spiromesifen	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Spirotetramat	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Spiroxamine	ND	0.4 ug/g	0.05 ug/g	0.10 ug/g	PASS
Tebuconazole	ND	0.4 ug/g	0.05 ug/g	0.10 ug/g	PASS
Thiacloprid	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Thiamethoxam	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS
Trifloxystrobin	ND	0.2 ug/g	0.05 ug/g	0.10 ug/g	PASS



LAB-TM-007 - FOREIGN MATTER AND FILTH ANALYSIS

FOR-CAN-231214-024-01 - THU, DEC 14, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Inorganic Matter	0.0 %	Detection			PASS
Organic Matter	0.0 %	2 %			PASS
Stems	1.0 %	5 %			PASS
Total Foreign Matter	1 %	N/A			N/A

LAB-TM-015 - ENUMERATION OF TOTAL YEAST AND MOLD ON 3M RYM PLATES

TYM-CAN-231214-024-01 - THU, DEC 14, 2023



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

LAB-TM-006 - MICROBIAL ANALYSIS BY QPCR

SS-CAN-231214-024-01 - THU, DEC 14, 2023



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

LAB-TM-009 - DETERMINATION OF WATER ACTIVITY

AWA-CAN-231214-024-01 - THU, DEC 14, 2023



ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Water Activity	0.539 aw	0.65 Awa			PASS



