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GAMA Report ID: HIPC-05531
Report Submitted: 6/3/2024

Client Info

Highmark Provisions, LLC
201 Summer Street Holliston, MA 01746
License: MC283492
Metrc Manifest: 2262612
Date Received: 5/29/2024

Sample Identification

METRC Batch ID: LVF-05072024-F1-AA
METRC Sample ID: 1A40A030000B221000005531
METRC Source ID: 1A40A030000B221000005504
ME Batch ID: N/A
QBench Order ID: HIPC7308

Sample Properties

Sample Weight (g): 6.5

Product Characterization

Production Stage: Raw Plant Material
Product Class: Buds
Retail Name: Lava Fuel

Results for Requested Analyses

Y = Tested "-" = Not Tested P = Pass F = Fail

Cannabinoid
Profile

Y

Terpene
Profile

Y

Heavy
Metals

P

Residual
Solvents

-

Pesticides

P

Total Yeast and
Mold

P

Mycotoxins

P

Pathogenic
Bacteria

P

Total
Coliforms

P

Total Aerobic
Bacteria

P

Entero-
bacteriaceae

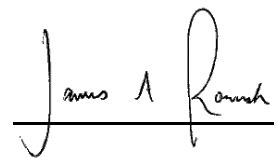
P

Vitamin E
Acetate

-

Authorization

Green Analytics Massachusetts is an Independent Testing Laboratory accredited to ISO/IEC 17025:2017 and licensed by the Massachusetts Cannabis Control Commission (CCC, # IL281277). Analytical methods and best-practices used are in compliance with the CCC's Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for MA Registered Medical Marijuana Dispensaries. The net/gross weight of the sample received was verified and all analyses were conducted at the GAMA laboratory. Quality control checks were prepared at known concentrations and run alongside batched client samples. Results presented here pertain to the sample received and relate only to items tested per sub-sampling SOP-071-GA. This Analytical Report shall not be reproduced except in full without GAMA approval. Where statements of conformity are reported ('pass' vs. 'fail'), the simple acceptance decision rule is applied, however the measurement uncertainty associated with the test method applied (not displayed in this simplified report) may impact the certainty with which a statement of conformity is made. This simplified report may not display all test methods' limits of detection (LODs), however this data is also available upon request.



James Roush
Laboratory Director

Cannabinoid Profile

Metric ID Tag: 1A40A030000B221000005531

Test ID: #665255

Analysis Date: 05/30/2024

Cannabinoids were analyzed using a High Performance Liquid Chromatograph equipped with a Photodiode Array Detector (HPLC-PDA) following GAMA SOP-002-GA; SOP-025-GA; SOP-073-GA.

Cannabinoid	LOQ (%)	Result (%)	Result (mg/g)
Tetrahydrocannabinolic acid (THCA)	0.097	29.871	298.71
Δ9-Tetrahydrocannabinol (Δ9-THC)	0.121	0.271	2.71
Cannabidiolic acid (CBDA)	0.126	ND	ND
Cannabidiol (CBD)	0.120	ND	ND
Cannabinol (CBN)	0.110	ND	ND
Cannabichromene (CBC)	0.110	ND	ND
Cannabigerolic acid (CBGA)	0.114	1.671	16.71
Cannabigerol (CBG)	0.109	0.508	5.08
Cannabidivarin (CBDV)	0.110	ND	ND
Tetrahydrocannabivarin (THCV)	0.110	ND	ND
Δ8-Tetrahydrocannabinol (Δ8-THC)	0.110	ND	ND
Total Cannabinoids		32.321	323.21

Note "NT": Not Tested; "ND": Not Detected; "LOQ": Limit of Quantitation; "BLQ": Below LOQ.

Heavy Metals Analysis

Metric ID Tag: 1A40A030000B221000005531

Test ID: #665257

Analysis Date: 05/31/2024

Heavy Metals were analyzed using an Inductively Coupled Plasma Mass Spectrometer (ICP-MS) following GAMA SOP-021-GA; SOP-061-GA; SOP-072-GA. - **Limit units: ppb**

Analyte	LOQ (ppb)	Result (ppb)	Limit	Pass/Fail
Total Arsenic	151.4	ND	200	PASS
Cadmium	151.4	ND	200	PASS
Total Mercury	75.7	ND	100	PASS
Lead	151.4	BLQ	500	PASS

Note "NT": Not Tested; "ND": Not Detected; "LOQ": Limit of Quantitation; "BLQ": Below LOQ.

Microbial Contaminants Analysis

Metric ID Tag: 1A40A030000B221000005531

Test IDs: 665265, 665264, 665263, 665260

Microbial Contaminants were measured using a quantitative PCR (qPCR) technique from which the resulting Cq values were converted to colony forming units per gram (CFU/g) following GAMA SOP-701-GA; SOP-702-GA; SOP-703-GA; SOP-704-GA. - **Limit units: CFU/g**

Analyte	Result (CFU/g)	Analysis Date	Limit (CFU/g)	Finding
Total Yeast and Mold (TYM)	ND	05/31/2024	10000	PASS
Total Viable Aerobic Bacteria (TAC)	190	05/31/2024	100000	PASS
Total Coliforms (TC)	ND	05/31/2024	1000	PASS
Enterobacteriaceae (EB)	ND	05/31/2024	1000	PASS

Note "NT": Not Tested; "ND": Not Detected.

Pathogenic Bacteria Results

Metric ID Tag: 1A40A030000B221000005531

Test IDs: 665261, 665262

The presence or absence of STEC E. coli and Salmonella spp in the sample was determined using a PCR technique. Samples were incubated for a minimum of 18 hours prior to DNA extraction following GAMA SOP-701-GA; SOP-702-GA; SOP-703-GA; SOP-704-GA. - **Limit units: CFU/g**

Analyte	Result	Analysis Date	Limit	Finding
STEC E. Coli	Not Detected in 1g	06/01/2024	Detection in 1.0 g	PASS
Salmonella spp.	Not Detected in 1g	06/01/2024	Detection in 1.0 g	PASS

Note "NT": Not Tested; "ND": Not Detected.

Mycotoxins Results

Metrc ID Tag: 1A40A030000B221000005531

Test ID: #665259

Analysis Date: 06/03/2024

Mycotoxins were analyzed using a High Performance Liquid Chromatograph equipped with a tandem Mass Spectrometer (LC/MS/MS) following GAMA SOP-002-GA; SOP-062-GA; SOP-070-GA. - **Limit units: µg/kg**

Analyte	LOQ (ppb)	Result (ppb)	Limit (ppb)	Finding
Aflatoxin B1	10.0	ND	20	PASS
Aflatoxin B2	10.0	ND	20	PASS
Aflatoxin G1	10.0	ND	20	PASS
Aflatoxin G2	10.0	ND	20	PASS
Ochratoxin A	10.0	ND	20	PASS

Note "NT": Not Tested; "ND": Not Detected; "LOQ": Limit of Quantitation; "BLQ": Below LOQ.

Pesticides Results

Metrc ID Tag: 1A40A030000B221000005531

Test ID: #665258

Analysis Date: 06/03/2024

Pesticides were analyzed using a High Performance Liquid Chromatograph equipped with a tandem Mass Spectrometer (LC/MS/MS) following GAMA SOP-002-GA; SOP-062-GA; SOP-070-GA. - **Limit units: ppb**

Analyte	LOQ (ppb)	Result (ppb)	Limit (ppb)	Finding
Bifenazate	5.0	ND	10	PASS
Bifenthrin	5.0	ND	10	PASS
Cyfluthrin	5.0	ND	10	PASS
Etoxazole	5.0	ND	10	PASS
Imazalil	5.0	ND	10	PASS
Imidacloprid	5.0	ND	10	PASS
Myclobutanil	5.0	ND	10	PASS
Spiromesifen	5.0	ND	10	PASS
Trifloxystrobin	5.0	ND	10	PASS

Note "NT": Not Tested; "ND": Not Detected; "LOQ": Limit of Quantitation; "BLQ": Below LOQ.

Terpenes Profile

Metrc ID Tag: 1A40A030000B221000005531

Test ID: #665256

Analysis Date: 05/31/2024

Terpenes were analyzed using a Liquid Injection Autosampler coupled to a Gas Chromatograph equipped with a tandem Mass Spectrometer (GC/MS/MS) following GAMA SOP-002-MA; SOP-063-MA; SOP-069-MA.

Analyte	LOQ (%)	Result (%)	Result (mg/g)
α-Pinene	0.01	0.053	0.53
β-Pinene	0.01	0.081	0.81
β-Myrcene	0.01	0.470	4.7
Limonene	0.01	0.660	6.6
Terpinolene	0.01	0.014	0.14
Linalool	0.01	0.093	0.93
Caryophyllene	0.01	0.389	3.89
α-Humulene	0.01	0.142	1.42
Caryophyllene Oxide	0.01	0.014	0.14
α-Bisabolol	0.01	0.044	0.44
Total Terpenes		1.960	19.6

Note "NT": Not Tested; "ND": Not Detected; "LOQ": Limit of Quantitation; "BLQ": Below LOQ.