Steep Hill Massachusetts

Analytical Report

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SHMA Report ID: CURC-48760
Report Submitted: 7/26/2022

[B] Client Info

Curaleaf Massachusetts, Inc.
30 Worcester Rd.
Webster, MA 01570

License:	RMD385-C
Metrc Manifest:	1158724
Date Received:	7/19/2022

[C] Sample Identification

METRC Batch ID:	220519GR.F5-1-PR-D
METRC Sample ID:	1A40A0100000E11000048760
METRC Source ID:	1A40A0100000E11000051559
ME Batch ID:	NA

[D] Sample Properties

Sample Weight (g):	7.0
Serving Size (g):	NA

[E] Product Characterization

Production Stage:	Finished Plant Material
Product Class:	Flower
Ingestion Only:	---
Extraction Solvent:	---
Retail Name:	F(Pop)-Ghost Rider-Bulk-H

[F] Results for Requested Analyses

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

Cannabinoid Profile	Y	Terpene Profile	-	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	-

[G] Authorization

Steep Hill 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. Where statements of conformity are reported ('pass' vs. 'fail'), the simple acceptance decision rule is applied.

The net/gross weight of the sample received was verified and all analyses were conducted at the SHMA laboratory. Results presented here pertain to the sample received and relate only to items tested. This Analytical Report shall not be reproduced except in full without SHMA approval.

ilac-MRA A2LA ACCREDITED CERT #s 4356.04 ; 4356.05

James J. Kocis
Laboratory Director

Steep Hill Massachusetts

METRC Sample ID: 1A40A0100000E11000048760

Item Name: F(Pop)-Ghost Rider-Bulk-H

[H] Cannabinoid Profile

Metrc ID Tag: 1A40A0100000E11000048760 Analysis Date: 07/22/22

Datafile: CURC-48760_1A40A0100000E11000048760_POTENCY_A_20220720_JM_01_7202022_051.lcd Analyst(s): AS

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

Cannabinoid	LOQ (%)	Result (%)	Result (mg/g)	Result (mg/serv)
Tetrahydrocannabinolic acid (THCA)	0.0967	20.2838	202.838	N/A
Δ9-Tetrahydrocannabinol (Δ9-THC)	0.1206	0.5561	5.561	N/A
Cannabidiolic acid (CBDA)	0.1263	ND	ND	N/A
Cannabidiol (CBD)	0.1198	ND	ND	N/A
Cannabinol (CBN)	0.1101	ND	ND	N/A
Cannabichromene (CBC)	0.1096	ND	ND	N/A
Cannabigerolic acid (CBGA)	0.1135	BLQ	BLQ	N/A
Cannabigerol (CBG)	0.1089	0.1858	1.858	N/A
Cannabidivarin (CBDV)	0.1097	ND	ND	N/A
Tetrahydrocannabivarin (THCV)	0.1098	ND	ND	N/A
Δ8-Tetrahydrocannabinol (Δ8-THC)	0.1096	ND	ND	N/A
Total Available Cannabinoids	-	21.0257	210.257	-

Note "NT": Not Tested; "ND": Not Detected; "BLQ": Below limit of Quantification. Percentage dry-weight-basis.

[I] Heavy Metals Analysis

Metrc ID Tag: 1A40A0100000E11000048760 Analysis Date: 07/24/22

Datafile: HM_A_20220720_TH_SD DIG-20220719_EM2 CURC-48760 Analyst(s): TH

Heavy Metals were measured using an Inductively Coupled Plasma Mass Spectrometer (ICP-MS) following SHMA SOP-021-GA; SOP-061-GA; SOP-072-GA.

	LOQ	Result	All Uses		Ingestion Only	
Analyte	(ppb)	(ppb)	Limit (ppb)	Finding	Limit (ppb)	Finding
Total Arsenic	151.4	BLQ	200.0	Pass	1500.0	NA
Cadmium	151.4	BLQ	200.0	Pass	500.0	NA
Total Mercury	75.7	BLQ	100.0	Pass	1500.0	NA
Lead	151.4	BLQ	500.0	Pass	1000.0	NA

Note "NT": Not Tested; "ND": Not Detected; "BLQ": Below limit of Quantification.

[J] Microbial Contaminants Analysis

Metrc ID Tag: 1A40A0100000E11000048760

Analyst(s): MG

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 SHMA SOP-701-GA; SOP-702-GA; SOP-703-GA; SOP-704-GA.

Analyte	Result (CFU/g)	Datafile	Analysis Date	Limit (CFU/g)	Finding
Total Coliforms (CC)	ND	PCR-20220719_CR_COL	07/25/22	1.00E+03	Pass
Total Yeast and Mold (YM)	ND	PCR-20220719_CR_TYM	07/25/22	1.00E+04	Pass
Total Viable Aerobic Bacteria (TAC)	ND	PCR-20220719_CR_TAC	07/25/22	1.00E+05	Pass
Bile-Tolerant Gram-Neg. Bacteria (BTGN)	ND	PCR-20220719_CR_BTGN	07/25/22	1.00E+03	Pass

Note: "NT": Not Tested; "ND" Not Detected. Enterobacteriaceae is the family of bacteria also known as Bile-Tolerant Gram-Negative bacteria.

[K] Pathogenic Bacteria Results | Metrc ID Tag: 1A40A0100000E11000048760 | Analysis Date: 07/25/22
Datafile: PCR-20220719_D2 | Analyst(s): MG

The presence or absence of STEC E. coli and Salmonella spp. was determined by plating samples on selective chromogenic medium. Samples were incubated for a minimum of 18 hours prior to plating and analyzed following SHMA SOP-700-MA.

Analyte	Result	Analysis Date	Limit	Finding
STEC E. coli	Not Detected	07/25/22	Detection in 1.0 g	Pass
Salmonella spp.	Not Detected	07/25/22	Detection in 1.0 g	Pass

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

[L] Mycotoxins Results | Metrc ID Tag: 1A40A0100000E11000048760 | Analysis Date: 07/23/22
Datafile: (Path: D:\Analyst Data\Projects\SHMA PGMY\Data\DataPGMY_B_20220721_RB_01.wiff), (sam | Analyst(s): JM

Mycotoxins were measured using a High Performance Liquid Chromatograph equipped with a tandem Mass Spectrometer (HPLC-MS/MS) following SHMA SOP-002-GA; SOP-062-GA; SOP-070-GA.

Analyte	LOQ (ppb)	Result (ppb)	Limit (ppb)	Finding
Aflatoxin B1	10.0	ND	-	Tested
Aflatoxin B2	10.0	ND	-	Tested
Aflatoxin G1	10.0	ND	-	Tested
Aflatoxin G2	10.0	ND	-	Tested
Ochratoxin A	10.0	ND	-	Tested
Total Mycotoxins	-	0.0	20.0	Pass

Note "NT": Not Tested; "ND": Not Detected; "BLQ": Below limit of Quantification.

[M] Residual Solvent Results | Metrc ID Tag: NT | Analysis Date: NT
Datafile: NT | Analyst(s): NT

Residual Solvents were measured using a Headspace Sampler coupled to a Gas Chromatograph equipped with a tandem Mass Spectrometer (HS-GC-MS/MS) following SHMA SOP-011-GA; SOP-067-GA; SOP-010-GA.

Analyte	LOQ (ppm)	Result (ppm)	Limit (ppm)	Finding
Ethanol	NT	NT	NT	NT
Propane	NT	NT	NT	NT
iso-Butane	NT	NT	NT	NT
n-Butane	NT	NT	NT	NT
n-Pentane	NT	NT	NT	NT
Acetone	NT	NT	NT	NT

Note "NT": Not Tested; "ND": Not Detected; "BLQ": Below limit of Quantification.

[N] Pesticides Results Metrc ID Tag: 1A40A0100000E11000048760 Analysis Date: 07/23/22
Datafile: (Path: D:\Analyst Data\Projects\SHMA PGMY\Data\DataPGMY_B_20220721_RB_01.wiff), (sam Analyst(s): JM

Pesticides were measured using a High Performance Liquid Chromatograph equipped with a tandem Mass Spectrometer (HPLC MS/MS) following SHMA SOP-002-GA; SOP-062-GA; SOP-070-GA.

Analyte	LOQ (ppb)	Result (ppb)	Limit (ppb)	Finding
Bifenazate	5.0	ND	10.0	Pass
Bifenthrin	5.0	ND	10.0	Pass
Cyfluthrin	5.0	ND	10.0	Pass
Etoxazole	5.0	ND	10.0	Pass
Imazalil	5.0	ND	10.0	Pass
Imidacloprid	5.0	ND	10.0	Pass
Myclobutanil	5.0	ND	10.0	Pass
Spiromesifen	5.0	ND	10.0	Pass
Trifloxystrobin	5.0	ND	10.0	Pass

Note "NT": Not Tested; "BLQ": Below Limit of Quantification; "ND": Not Detected

[O] Vitamin E Acetate Results Metrc ID Tag: NT Analysis Date: NT
Datafile: NT Analyst(s): NT

Pesticides were measured using a High Performance Liquid Chromatograph equipped with a tandem Mass Spectrometer (HPLC MS/MS) following SHMA SOP-002-GA; SOP-062-GA; SOP-070-GA.

Analyte	LOD (ppb)	Result (ppb)	Limit (ppb)	Finding
Vitamin E Acetate	-	NT	-	NT

Note "NT": Not Tested; "LOD": Limit of Detection

[P] Terpenes Profile Metrc ID Tag: NT Analysis Date: NT
Datafile: NT Analyst(s): NT

Terpenes were measured using a Headspace Sampler coupled to a Gas Chromatograph equipped with a tandem Mass Spectrometer (HS-GC-MS/MS) following SHMA SOP-011-GA; SOP-067-GA; SOP-010-GA.

Terpenes	LOD (%)	Result (%)	Result (mg/g)
alpha-Pinene	NT	NT	NT
beta-Pinene	NT	NT	NT
beta-Myrcene	NT	NT	NT
Limonene	NT	NT	NT
Terpinolene	NT	NT	NT
Linalool	NT	NT	NT
Caryophyllene	NT	NT	NT
alpha-Humulene	NT	NT	NT
Caryophyllene oxide	NT	NT	NT
alpha-Bisabolol	NT	NT	NT
Total Terpenes	-	-	-

Note NT: Not Tested.

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METRC Sample ID: 1A40A0100000E11000048760

Item Name: F(Pop)-Ghost Rider-Bulk-H

QA/QC Section

[Q] Cannabinoid QC — Analysis Date: 07/22/22

Datafile: LCS_POTENCY_A_20220720_JM_01_7202022_030.lcd — Analyst(s): AS

QC Notes: Quality control checks were prepared at known concentrations and run alongside batch samples.

Cannabinoid	Measured Conc. (mg/mL)	Expected Conc. (mg/mL)	% Recovery
Tetrahydrocannabinolic acid (THCA)	0.045	0.046	100%
Δ9-Tetrahydrocannabinol (Δ9-THC)	0.047	0.046	104%
Cannabidiolic acid (CBDA)	0.049	0.046	107%
Cannabidiol (CBD)	0.048	0.045	107%
Cannabinol (CBN)	0.047	0.045	105%
Cannabichromene (CBC)	0.048	0.045	106%
Cannabigerolic acid (CBGA)	0.049	0.046	107%
Cannabigerol (CBG)	0.049	0.045	108%
Cannabidivarin (CBDV)	0.048	0.045	106%
Tetrahydrocannabivarin (THCV)	0.047	0.046	103%
Δ8-Tetrahydrocannabinol (Δ8-THC)	0.046	0.045	103%

[R] Heavy Metals QC — Analysis Date: 07/24/22

Datafile: HM_A_20220720_TH_SD DIG-20220719_EM2 LCS — Analyst(s): TH

QC Notes: Quality control checks were prepared at known concentrations and run alongside batch samples.

Analyte	Measured Conc. (ppb)	Expected Conc. (ppb)	% Recovery
Total Arsenic	3.7	4.0	94%
Cadmium	3.6	4.0	91%
Total Mercury	3.8	4.0	95%
Lead	4.2	4.0	105%

[S] Microbial Contaminants QC — Analysis Date: 7/25/2022

Analyst(s): MG

QC Notes: Quality control checks are included with each run to assess the success of instrument run and polymerase chain reaction.

Target	Datafile	Positive Control Cq	Negative Control Cq	Finding
Total Coliforms (CC)	PCR-20220719_CR_COL	12.36	N/A	Pass
Total Yeast and Mold (YM)	PCR-20220719_CR_TYM	13.12	N/A	Pass
Total Viable Aerobic Bacteria (TAC)	PCR-20220719_CR_TAC	15.62	N/A	Pass
Bile-Tolerant Gram-Neg. Bacteria (BTGN)	PCR-20220719_CR_BTGN	18.15	N/A	Pass
Expected Value		*Cq ≤ 35*	*>35/>30 (TAC) or N/A*	

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

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METRC Sample ID: 1A40A0100000E11000048760

Item Name: F(Pop)-Ghost Rider-Bulk-H

[T] Pathogenic Bacteria QC

Analysis Date: 7/25/2022

Analyst(s): MG

QC Notes: Quality control checks are included with each run to assess the success of sample plating.

Target	Datafile	Positive Control Cq	Negative Control Cq	Finding
STEC E. coli	PCR-20220719_D2	12.04	N/A	Pass
Salmonella spp.	PCR-20220719_D2	16.54	N/A	Pass
Expected Value		*Cq ≤ 35*	*Cq>35 or N/A*	

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

[U] Mycotoxins QC

Analysis Date: 07/23/22

Datafile: (Path: D:\Analyst Data\Projects\SHMA PGMY\Data\DataPGMY_B_20220721_RB_01.wiff), (sample

Analyst(s): JM

QC Notes: Quality control checks were prepared at known concentrations and run alongside batch samples.

Analyte	Measured Conc. (ppb)	Expected Conc. (ppb)	% Recovery
Aflatoxin B1	1.7	1.6	106%
Aflatoxin B2	1.9	1.7	112%
Aflatoxin G1	1.6	1.7	97%
Aflatoxin G2	1.7	1.6	107%
Ochratoxin A	1.6	1.7	99%

[V] Residual Solvent QC

Analysis Date: NT

Datafile: NT

Analyst(s): NT

QC Notes: Quality control checks were prepared at known concentrations and run alongside batch samples.

Analyte	Measured Conc. (ppb)	Expected Conc. (ppb)	% Recovery
Ethanol	NT	NT	NT
iso-Butane	NT	NT	NT
Propane	NT	NT	NT
n-Butane	NT	NT	NT
n-Pentane	NT	NT	NT
Acetone	NT	NT	NT

[W] Pesticides QC

Analysis Date: 07/23/22

Datafile: (Path: D:\Analyst Data\Projects\SHMA PGMY\Data\DataPGMY_B_20220721_RB_01.wiff), (sam

Analyst(s): JM

QC Notes: Quality control checks were prepared at known concentrations and run alongside batch samples.

Analyte	Measured Conc (ppb)	Expected Conc (ppb)	% Recovery	Finding
Bifenazate	0.9	0.8	105%	Pass
Bifenthrin	0.8	0.8	98%	Pass
Cyfluthrin	1.1	0.8	136%	Pass
Etoxazole	1.0	0.8	119%	Pass
Imazalil	0.9	0.8	116%	Pass
Imidacloprid	1.0	0.8	123%	Pass
Myclobutanil	0.8	0.8	99%	Pass
Spiromesifen	0.9	0.8	112%	Pass
Trifloxystrobin	1.0	0.8	116%	Pass

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METRC Sample ID: 1A40A0100000E11000048760

Item Name: F(Pop)-Ghost Rider-Bulk-H

[X] Vitamin E Acetate QC	Analysis Date: NT
Datafile: NT	Analyst(s): NT

QC Notes: Quality control checks were prepared at known concentrations and run alongside batch samples.

Analyte	Observed Result	Expected Result	Finding
Vitamin E Acetate	NT	NT	NT

- End of Analytical Report -