green analytics
massachusetts, llc

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Analytical Report

GAMA Report ID: CRLC-05388
Report Submitted: 1/17/2025

Client Info	
Cedar Roots LLC	
50 East Main Street Ware, MA 01082	
License:	MC282746
Metrc Manifest:	2692374
Date Received:	1/14/2025

Sample Identification	
METRC Batch ID:	N/A
METRC Sample ID:	1A40A030000BFCD000005388
METRC Source ID:	1A40A030000BFCD000005379
ME Batch ID:	PM-5379
QBench Order ID:	CRLC10411

Sample Properties	
Sample Weight (g):	7.06

Product Characterization	
Production Stage:	Raw Plant Material
Product Class:	Buds
Retail Name:	Permanent Marker

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-MA. 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

Metrc ID Tag: 1A40A030000BFCD000005388
Test ID: #955927
Analysis Date: 01/15/2025

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

Cannabinoid	LOQ (%)	Result (%)	Result (mg/g)
Tetrahydrocannabinolic acid (THCA)	0.040	22.522	225.22
Δ9-Tetrahydrocannabinol (Δ9-THC)	0.040	2.250	22.50
Cannabidiolic acid (CBDA)	0.040	ND	ND
Cannabidiol (CBD)	0.040	ND	ND
Cannabinol (CBN)	0.040	ND	ND
Cannabichromene (CBC)	0.040	ND	ND
Cannabigerolic acid (CBGA)	0.040	0.988	9.88
Cannabigerol (CBG)	0.040	0.215	2.15
Cannabidivarin (CBDV)	0.040	ND	ND
Tetrahydrocannabivarin (THCV)	0.040	ND	ND
Δ8-Tetrahydrocannabinol (Δ8-THC)	0.040	ND	ND
Total THC		**22.002**	**220.02**
Total CBD		**ND**	**ND**
Total Cannabinoids		**25.975**	**259.75**

Total THC: Δ9-THC + (THCA * 0.877)
Total CBD: CBD + (CBDA * 0.877)
Note "NT": Not Tested; "ND": Not Detected; "LOQ": Limit of Quantitation; "BLQ": Below LOQ.

Heavy Metals Analysis

Metrc ID Tag: 1A40A030000BFCD000005388
Test ID: #955929
Analysis Date: 01/15/2025

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

Analyte	LOQ (ppb)	Result (ppb)	Limit	Pass/Fail
Total Arsenic	132.9	ND	200	PASS
Cadmium	131.7	BLQ	200	PASS
Total Mercury	88.0	BLQ	100	PASS
Lead	175.8	BLQ	500	PASS

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

PCR Microbial Contaminants Analysis

Metrc Id Tag: 1A40A030000BFCD000005388
Test IDs:955932, 955935, 955936, 955937

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-MA; SOP-702-MA; SOP-703-MA; SOP-704-MA. **- Limit units: CFU/g**

Analyte	Result	Analysis Date	Limit	Finding
Total Yeast and Mold (TYM)	ND	01/16/2025	10000	PASS
Total Viable Aerobic Bacteria (TAC)	1048	01/16/2025	100000	PASS
Total Coliforms (TC)	ND	01/16/2025	1000	PASS
Enterobacteriaceae (EB)	ND	01/16/2025	1000	PASS

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

Pathogenic Bacteria Results — **Metrc Id Tag: 1A40A030000BFCD000005388**
Test IDs:955933, 955934

The presence or absence of STEC E. coli and Salmonella spp. was determined using a PCR technique. Samples were incubated for a minimum of 18 hours prior to plating and analyzed following GAMA SOP-700-MA. **- Limit units: CFU/g**

Analyte	Result	Analysis Date	Limit	Finding
STEC E. Coli	Not Detected in 1g	01/17/2025	Detection in 1.0 g	PASS
Salmonella spp.	Not Detected in 1g	01/17/2025	Detection in 1.0 g	PASS

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

Mycotoxins Results — **Metrc ID Tag: 1A40A030000BFCD000005388**
Test ID: #955931 — **Analysis Date: 01/17/2025**

Mycotoxins were analyzed using a High Performance Liquid Chromatograph equipped with a tandem Mass Spectrometer (LC/MS/MS) following GAMA SOP-002-MA; SOP-062-MA; SOP-070-MA. **- 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: 1A40A030000BFCD000005388**
Test ID: #955930 — **Analysis Date: 01/17/2025**

Pesticides were analyzed using a High Performance Liquid Chromatograph equipped with a tandem Mass Spectrometer (LC/MS/MS) following GAMA SOP-002-MA; SOP-062-MA; SOP-070-MA. **- 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: 1A40A030000BFCD000005388**
Test ID: #955928 | **Analysis Date: 01/16/2025**

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	0.244	2.44
β-Pinene	0.01	0.194	1.94
β-Myrcene	0.01	0.074	0.74
Limonene	0.01	1.088	10.88
Terpinolene	0.01	0.014	0.14
Linalool	0.01	0.375	3.75
Caryophyllene	0.01	0.657	6.57
α-Humulene	0.01	0.157	1.57
Caryophyllene Oxide	0.01	0.014	0.14
α-Bisabolol	0.01	0.051	0.51
Total Terpenes		**2.868**	**28.68**

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