

## SUMMARY OF ANALYSIS (SAMPLE ID: SA25426)

<b>Testing Location:</b> OKC 3680 E. I-240 Service Rd. Oklahoma City, OK 73135 License: LAAA-4Y4X-Z72Z	<b>Customer ID:</b> 1648 Red Dirt Sungrown P.O. Box 1399 Guthrie, OK 73044 License: GAAA-41RN-M7KD	<b>Order ID:</b> OR7942 <b>Lot Number:</b> MAC040703 <b>Batch Number:</b> Not Entered	<b>Sample Type:</b> Primary <b>Matrix:</b> Flower <b>Mass:</b> 5g <b>Date Collected:</b> 04/09/2020 <b>Date Received:</b> 04/09/2020
<b>Cultivar (Strain) or Sample Description:</b> MAC			<b>Date Completed:</b> 04/13/2020

\*This page is simply a summary of the analysis performed. For analytical details, please consult the individual Certificate(s) of Analysis for each of the specific test(s) performed.

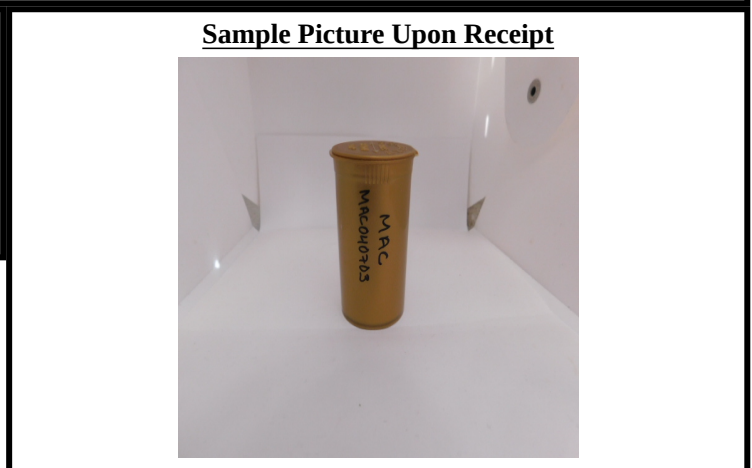
\*For Oklahoma, with the new OMMA rules to be effective April 1, 2020, limits on moisture are proposed at 15% and water activity at 0.65aw.

<b>Moisture Content (%)</b> 10.5	<b>PASS/FAIL</b> <b>PASS</b>	<b>Water Activity (aw)</b> 0.41 @ 22.1°C	<b>PASS/FAIL</b> <b>PASS</b>
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<u>Cannabinoids (Top 3)</u>	<u>(%)</u>	<u>mg/g</u>
THCa	17.7	177
Δ9-THC	1.91	19
CBGa	0.841	8
TOTAL CBD	0.0491	0.491
TOTAL THC	17.5	175
TOTAL CANNABINOIDS	20.8	208

<u>Terpenes (Top 5)</u>	<u>(%)</u>	<u>µg/g</u>
Terpinolene	0.264	2638
α-Bisabolol	0.084	836
α-Humulene	0.082	824
d-Limonene	0.068	681
β-Myrcene	0.066	658
TOTAL TERPENES	0.821	8205

<u>Contaminants</u>	<u>PASS/FAIL</u>
Heavy Metals:	<b>PASS</b>
Microbiology:	<b>PASS</b>
Mycotoxins:	<b>PASS</b>
Pesticides:	<b>PASS</b>
Visual Inspection:	<b>PASS</b>



Scan the QR code to verify results.

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*Kyle W. Felling*  
Kyle W. Felling, Ph.D.  
Laboratory Director



## CERTIFICATE OF ANALYSIS (SAMPLE ID: SA25426)

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### CANNABINOID (POTENCY) PROFILE

**Analysis Date/Time:** 04/09/2020 1206      **Method:** HPLC/DAD      **Moisture Content (%):** 10.5  
**Analyst:** WW      **Instrument:** Agilent 1100      **Water Activity (aw):** 0.4086 @ 22.07Å°C

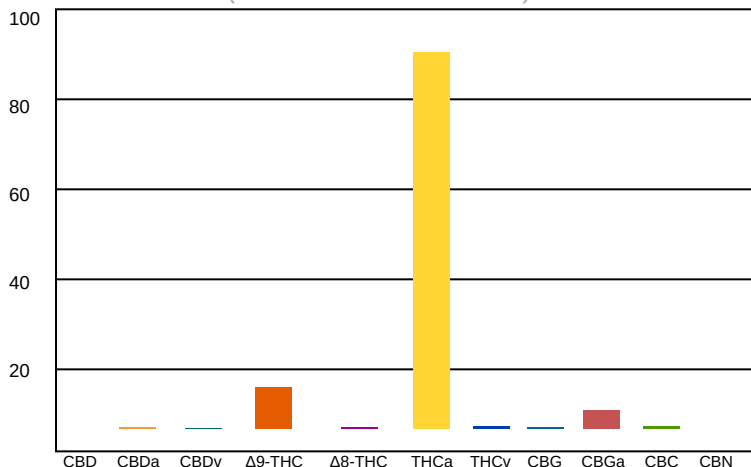
Cannabinoid	Result (%)	Result (mg/g)	Reporting Limit (mg/g)	Result (mg/mL)	Per Unit (mg)
CBD	-	-	0.0501	-	-
CBDa	0.0559	0.559	0.0501	-	0.559
CBDv	0.0147	0.147	0.0501	-	0.147
Δ9-THC	1.91	19.1	0.0501	-	19
Δ8-THC	0.0172	0.172	0.0501	-	0.172
THCa	17.7	177	0.0501	-	177
THCv	0.0693	0.693	0.0501	-	0.693
CBC	0.0686	0.686	0.0501	-	0.686
CBG	0.0603	0.603	0.0501	-	0.603
CBGa	0.841	8.41	0.0501	-	8
CBN	0.0101	0.101	0.0501	-	0.101
<b>TOTAL</b>	<b>20.8</b>	<b>208</b>	-	-	<b>208</b>
<b>TOTAL THC</b>	<b>17.5</b>	<b>175</b>	-	-	<b>175</b>
<b>TOTAL CBD</b>	<b>0.0491</b>	<b>0.491</b>	-	-	<b>0.491</b>



**UNIT MASS (g): 1**

"-" Not detected above RL.

### Cannabinoid Distribution (% of Total Cannabinoids)



Deviations from standard operating procedure: None

Recoveries for all analyte standards: 90-110%  
Replicate Uncertainties: <5% RSD, <20% RPD  
Sample/Reagent Blanks: <RL for all analytes

Values for plant matter are adjusted for moisture content.

Total THC = (THCa x 0.877) + Δ9-THC  
Total CBD = (CBDa x 0.877) + CBD

Percentage results are reported by mass.  
mg/g results are reported as mass component per mass material.

Abbreviations: UV - Ultraviolet, HPLC - High Pressure Liquid Chromatography, RL - Reporting Limit, RPD - Relative Percent Difference, RSD - Relative Standard Deviation

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### TERPENOID PROFILE

**Analysis Date/Time:** 04/09/2020 1206      **Method:** HS/GC/FID (Internal Method-002)      **Deviations from SOP:**  
**Analyst:** DJ      **Instrument:** Agilent 6890      None

<u>Terpene</u>	<u>Result (µg/g)</u>	<u>Result (%)</u>	
α-Bisabolol	836	0.0836	■
Camphene	-	-	
δ-3-Carene	130	0.013	■
β-Caryophyllene	-	-	
Caryophyllene oxide	121	0.0121	■
p-Cymene	26	0.00259	■
Eucalyptol	-	-	
Geraniol	65	0.00645	■
Guaiol	-	-	
α-Humulene	824	0.0824	■
Isopulegol	-	-	
d-Limonene	681	0.0681	■
Linalool	526	0.0526	■
β-Myrcene	658	0.0658	■
cis-Nerolidol	-	-	
trans-Nerolidol	-	-	
α-Ocimene	-	-	
β-Ocimene	501	0.0501	■
α-Pinene	340	0.034	■
β-Pinene	614	0.0614	■
α-Terpinene	161	0.0161	■
γ-Terpinene	85	0.00846	■
Terpinolene	2638	0.264	■
<b>TOTAL</b>	<b>8205</b>	<b>0.821</b>	



*Abbreviations:* HS - Headspace, GC - Gas Chromatography, MS - Mass Spectrometry, RL - Reporting Limit

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"-" Not detected above RL.

**Reporting Limit (µg/g): 2**

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## PESTICIDES PROFILE

**Analysis Date/Time:** 04/09/2020 1206  
**Analyst:** DJ

**Method:** LC/MS/MS  
**Instrument:** Waters Acquity/TQD

**Deviations from SOP:**  
None

<u>Pesticide</u>	<u>Result (µg/g)</u>	<u>Action Level (µg/g)</u>
Abamectin (71751-41-2)	-	0.5
Azoxystrobin (131860-33-8)	-	0.5
Bifenazate* (149877-41-8)	-	0.5
Etoazazole (153233-91-1)	-	0.5
Imazalil (35554-44-0)	-	0.5
Imidacloprid (138261-41-3)	-	0.5
Malathion (121-75-5)	-	0.5
Myclobutanil (88671-89-0)	-	0.5
Permethrins* (52645-53-1)	-	0.5
Spinosad A (168316-95-8)	-	0.5
Spinosad D (168316-95-8)	-	0.5
Spiromesifen (283594-90-1)	-	0.5
Spirotetramat (203313-25-1)	-	0.5
Tebuconazole (80443-41-0)	-	0.5

### Color Key

RESULT < 1/2 AL
1/2 AL < RESULT < AL
RESULT > AL

**Reporting Limit (µg/g)**  
1/2 of AL

"-" not detected above reporting limit

"\*" analyzed by GC/MS (all others analyzed by LC/MS/MS)

Permethrins measured as the cumulative residue of the *cis*- and *trans*-permethrin isomers.



**Abbreviations:** LC - Liquid Chromatography, GC - Gas Chromatography, MS - Mass Spectrometry, RL - Reporting Limit, AL - Action Level, CAS - Chemical Abstract Services

<u>Pesticide</u>	<u>Synonym(s)</u>	<u>Pesticide</u>	<u>Synonym(s)</u>	<u>Pesticide</u>	<u>Synonym(s)</u>
Cyfluthrin	Baythroid	Myclobutanil	Sythane	Propiconazole	Tilt
DDVP	Dichlorvos	Naled	Dibrom	Propoxur	Baygon
Ethoprophos	Prophos	Phosmet	Imidan		

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**MYCOTOXIN PROFILE**

**Analysis Date/Time:** 04/09/2020 1206  
**Analyst:** DJ

**Method:** LC/MS/MS  
**Instrument:** Waters Acquity/TQD

**Deviations from SOP:**  
None

<u>Mycotoxin</u>	<u>Result</u> (µg/kg)	<u>Action Level</u> (µg/kg)
Aflatoxin B1	-	20
Aflatoxin B2	-	20
Aflatoxin G1	-	20
Aflatoxin G2	-	20
Ochratoxin A	-	20



*Abbreviations:* EC - Escherichia Coli, CFU - Colony-Forming Unit, RL - Reporting Limit, AL - Action Level

**Color Key**

RESULT < 1/2 AL
1/2 AL < RESULT < AL
RESULT > AL

**Reporting Limit (CFU/g)**

1

"-" not detected above reporting limit

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**HEAVY METAL PROFILE**

**Analysis Date/Time:** 04/09/2020 1206  
**Analyst:** CC

**Method:** ICP/MS  
**Instrument:** PerkinElmer Elan 9000

**Deviations from SOP:**  
None

<u>Heavy Metal</u>	<u>Result (µg/kg)</u>	<u>Action Level (µg/kg)</u>
Arsenic (As)	-	400
Cadmium (Cd)	-	440
Lead (Pb)	-	1000
Mercury (Hg)	-	200



*Abbreviations:* ICP - Inductively-Coupled Plasma, OES - Optical Emission Spectroscopy, MS - Mass Spectroscopy, RL - Reporting Limit, AL - Action Level

**Color Key**

RESULT < 1/2 AL
1/2 AL < RESULT < AL
RESULT > AL

**Reporting Limit (µg/kg)**  
50

"-" not detected above reporting limit

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**MICROBIOLOGICAL PROFILE**

**Analysis Date/Time:** 04/09/2020 1206      **Method:** Hardy Diagnostics CompactDry      **Deviations from SOP:**  
**Analyst:** KB      **Instrument:** Thermo Incubator      None

<u>Bacteria/Microbe</u>	<u>Result (CFU/g)</u>	<u>Action Level (CFU/g)</u>
Aerobic Plate Count, Total	Absent	-
Escherichia Coli (E. Coli)	Absent	1
Mold	Absent	10000
Yeast	Absent	10000
Salmonella spp.	Absent	1



*Abbreviations:* EC - Escherichia Coli, CFU - Colony-Forming Unit, RL - Reporting Limit, AL - Action Level, NT - Not Tested

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1/2 AL < RESULT < AL
RESULT > AL

**Reporting Limit (CFU/g)**  
1

"-" not detected above reporting limit

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