

## SUMMARY OF ANALYSIS (SAMPLE ID: SA28087)

<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> OR8744 <b>Lot Number:</b> MD060201 <b>Batch Number:</b> Not Entered	<b>Sample Type:</b> Primary <b>Matrix:</b> Flower <b>Mass:</b> 5g <b>Date Collected:</b> 06/03/2020 <b>Date Received:</b> 06/03/2020
<b>Cultivar (Strain) or Sample Description:</b> Mandarin Dreams			<b>Date Completed:</b> 06/08/2020

\*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> 12.2	<b>PASS/FAIL</b> PASS	<b>Water Activity (aw)</b> 0.43 @ 27.6°C	<b>PASS/FAIL</b> PASS
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<u>Cannabinoids (Top 3)</u>	<u>(%)</u>	<u>mg/g</u>
THCa	18.7	187
Δ9-THC	0.95	10
CBGa	0.619	6
TOTAL CBD	0.0862	0.862
TOTAL THC	17.3	173
TOTAL CANNABINOIDS	20.6	206

<u>Terpenes (Top 5)</u>	<u>(%)</u>	<u>µg/g</u>
β-Myrcene	0.148	1476
β-Caryophyllene	0.126	1259
α-Humulene	0.042	422
α-Bisabolol	0.029	292
Linalool	0.029	286
TOTAL TERPENES	0.457	4571

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



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: SA28087)

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**Cultivar (Strain) or Sample Description:** Mandarin Dreams **Date Completed:** 06/08/2020

### CANNABINOID (POTENCY) PROFILE

**Analysis Date/Time:** 06/04/2020 1133 **Method:** HPLC/DAD **Moisture Content (%):** 12.2  
**Analyst:** WW **Instrument:** Agilent 1100 **Water Activity (aw):** 0.4283 @ 27.6Å°C

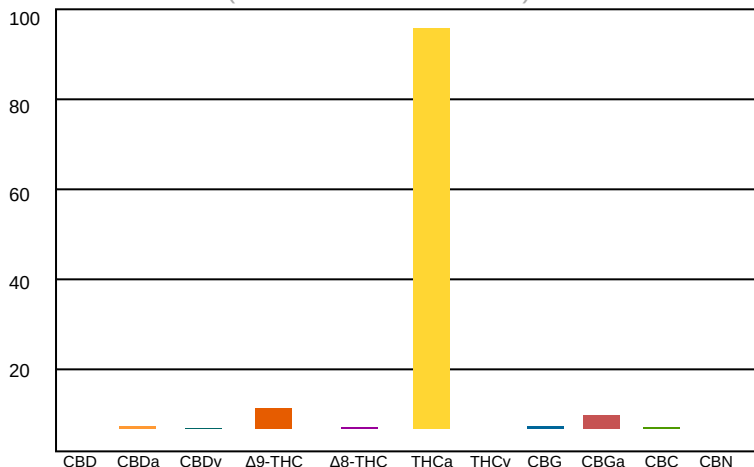
Cannabinoid	Result (%)	Result (mg/g)	Reporting Limit (mg/g)	Result (mg/mL)	Per Unit (mg)
CBD	-	-	0.05	-	-
CBDa	0.0983	0.983	0.05	-	0.983
CBDv	0.0117	0.117	0.05	-	0.117
Δ9-THC	0.95	9.5	0.05	-	10
Δ8-THC	0.0369	0.369	0.05	-	0.369
THCa	18.7	187	0.05	-	187
THCv	-	-	0.05	-	-
CBC	0.0317	0.317	0.05	-	0.317
CBG	0.103	1.03	0.05	-	1.03
CBGa	0.619	6.19	0.05	-	6
CBN	0.00878	0.0878	0.05	-	0.0878
<b>TOTAL</b>	<b>20.6</b>	<b>206</b>			<b>206</b>
<b>TOTAL THC</b>	<b>17.3</b>	<b>173</b>			<b>173</b>
<b>TOTAL CBD</b>	<b>0.0862</b>	<b>0.862</b>			<b>0.862</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:** 06/04/2020 1133      **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	292	0.0292	■
Camphene	29	0.00292	
δ-3-Carene	-	-	
β-Caryophyllene	1259	0.126	■
Caryophyllene oxide	14	0.00136	
p-Cymene	-	-	
Eucalyptol	33	0.00328	
Geraniol	94	0.00938	
Guaiol	-	-	
α-Humulene	422	0.0422	■
Isopulegol	-	-	
d-Limonene	214	0.0214	■
Linalool	286	0.0286	■
β-Myrcene	1476	0.148	■
cis-Nerolidol	-	-	
trans-Nerolidol	-	-	
α-Ocimene	47	0.0047	
β-Ocimene	224	0.0224	■
α-Pinene	48	0.0048	
β-Pinene	80	0.008	■
α-Terpinene	-	-	
γ-Terpinene	-	-	
Terpinolene	54	0.00538	
<b>TOTAL</b>	<b>4571</b>	<b>0.457</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:** 06/04/2020 1133  
**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:** 06/04/2020 1133

**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

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**HEAVY METAL PROFILE**

**Analysis Date/Time:** 06/04/2020 1133      **Method:** ICP/MS      **Deviations from SOP:**  
**Analyst:** CC      **Instrument:** PerkinElmer Elan 9000      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:** 06/04/2020 1133      **Method:** Hardy Diagnostics CompactDry      **Deviations from SOP:**  
**Analyst:** DJ      **Instrument:** Thermo Incubator      None

<u>Bacteria/Microbe</u>	<u>Result (CFU/g)</u>	<u>Action Level (CFU/g)</u>
Escherichia Coli (E. Coli)	Absent	1
Mold/Yeast	Absent	10000
Salmonella spp.	Absent	1
Staphylococcus Aureus	Absent	1



*Abbreviations:* EC - Escherichia Coli, CFU - Colony-Forming Unit, RL - Reporting Limit, AL - Action Level, TNTC - Too Numerous To Count, NT - Not Tested  
Absent - Not Detected Above RL, Present - Detected Above RL

**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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