

## SUMMARY OF ANALYSIS (SAMPLE ID: SA27616)

<b>Testing Location:</b>	<b>Customer ID:</b> 1648	<b>Order ID:</b> OR8591	<b>Sample Type:</b> Primary
OKC	Red Dirt Sungrown	<b>Lot Number:</b>	<b>Matrix:</b> Flower
3680 E. I-240 Service Rd.	P.O. Box 1399	MZ052003	<b>Mass:</b> 5g
Oklahoma City, OK 73135	Guthrie, OK 73044	<b>Batch Number:</b>	<b>Date Collected:</b> 05/26/2020
License: LAAA-4Y4X-Z72Z	License: GAAA-41RN-M7KD	Not Entered	<b>Date Received:</b> 05/26/2020
<b>Cultivar (Strain) or Sample Description:</b> Mandarin Zkittlez			<b>Date Completed:</b> 05/28/2020

\*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>	<b>PASS/FAIL</b>	<b>Water Activity (aw)</b>	<b>PASS/FAIL</b>
13.7	PASS	0.43 @ 23.6°C	PASS

<b><u>Cannabinoids (Top 3)</u></b>	<b><u>(%)</u></b>	<b><u>mg/g</u></b>
THCa	19.6	196
Δ9-THC	0.525	5
CBGa	0.366	4
TOTAL CBD	0.0469	0.469
TOTAL THC	17.7	177
TOTAL CANNABINOIDS	20.8	208

<b><u>Terpenes (Top 5)</u></b>	<b><u>(%)</u></b>	<b><u>µg/g</u></b>
β-Caryophyllene	0.359	3591
d-Limonene	0.184	1843
α-Humulene	0.108	1082
Linalool	0.099	985
α-Bisabolol	0.035	353
TOTAL TERPENES	0.904	9038

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

### Sample Picture Upon Receipt



Scan the QR code to verify results.

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### REPORT OF LABORATORY ANALYSIS

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

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## CERTIFICATE OF ANALYSIS (SAMPLE ID: SA27616)

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## CANNABINOID (POTENCY) PROFILE

**Analysis Date/Time:** 05/27/2020 0901 **Method:** HPLC/DAD **Moisture Content (%):** 13.7  
**Analyst:** WW **Instrument:** Agilent 1100 **Water Activity (aw):** 0.4251 @ 23.59Â°C

<b>Cannabinoid</b>	<b>Result (%)</b>	<b>Result (mg/g)</b>	<b>Reporting Limit (mg/g)</b>	<b>Result (mg/mL)</b>	<b>Per Unit (mg)</b>
CBD	-	-	0.0502	-	-
CBDa	0.0535	0.535	0.0502	-	0.535
CBDv	0.0128	0.128	0.0502	-	0.128
Δ9-THC	0.525	5.25	0.0502	-	5
Δ8-THC	0.0219	0.219	0.0502	-	0.219
THCa	19.6	196	0.0502	-	196
THCv	0.0463	0.463	0.0502	-	0.463
CBC	0.0203	0.203	0.0502	-	0.203
CBG	0.195	1.95	0.0502	-	1.95
CBGa	0.366	3.66	0.0502	-	4
CBN	-	-	0.0502	-	-
<b>TOTAL</b>	<b>20.8</b>	<b>208</b>	-	-	<b>208</b>
<b>TOTAL THC</b>	<b>17.7</b>	<b>177</b>	-	-	<b>177</b>
<b>TOTAL CBD</b>	<b>0.0469</b>	<b>0.469</b>	-	-	<b>0.469</b>

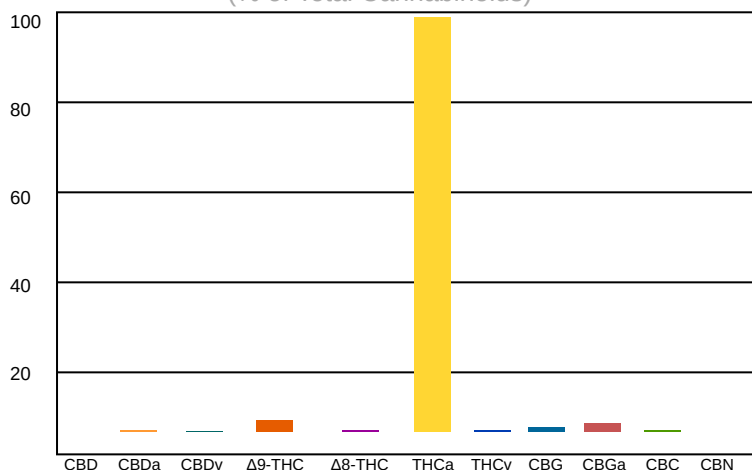


**UNIT MASS (g):** 1

"-" 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:** 05/27/2020 0901

**Method:** HS/GC/FID (Internal Method-002)

**Deviations from SOP:**

**Analyst:** DJ

**Instrument:** Agilent 6890

None

<u>Terpene</u>	<u>Result</u> ( <u>µg/g</u> )	<u>Result</u> ( <u>%</u> )	
α-Bisabolol	353	0.0353	■
Camphene	76	0.00765	■
δ-3-Carene	-	-	
β-Caryophyllene	3591	0.359	■
Caryophyllene oxide	128	0.0128	■
p-Cymene	33	0.00325	■
Eucalyptol	54	0.00538	■
Geraniol	93	0.00934	■
Guaiol	-	-	
α-Humulene	1082	0.108	■
Isopulegol	-	-	
d-Limonene	1843	0.184	■
Linalool	985	0.0985	■
β-Myrcene	-	-	
cis-Nerolidol	-	-	
trans-Nerolidol	-	-	
α-Ocimene	68	0.00683	■
β-Ocimene	45	0.00454	■
α-Pinene	208	0.0208	■
β-Pinene	352	0.0352	■
α-Terpinene	-	-	
γ-Terpinene	40	0.00398	■
Terpinolene	85	0.00849	■
<b>TOTAL</b>	<b>9038</b>	<b>0.904</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): 2.01**

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### PESTICIDES PROFILE

**Analysis Date/Time:** 05/27/2020 0901

**Method:** LC/MS/MS

**Deviations from SOP:**

**Analyst:** DJ

**Instrument:** Waters Acquity/TQD

None

<u>Pesticide</u>	<u>Result</u> (µg/g)	<u>Action Level</u> (µg/g)	<u>Color Key</u>
Abamectin (71751-41-2)	-	0.5	RESULT < 1/2 AL
Azoxystrobin (131860-33-8)	-	0.5	1/2 AL < RESULT < AL
Bifenazate* (149877-41-8)	-	0.5	RESULT > AL
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	

**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	Systhane	Propiconazole	Tilt
DDVP	Dichlorvos	Naled	Dibrom	Propoxur	Baygon
Ethoprophos	Prophos	Phosmet	Imidan		

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**MYCOTOXIN PROFILE****Analysis Date/Time:** 05/27/2020 0901**Method:** LC/MS/MS**Deviations from SOP:****Analyst:** DJ**Instrument:** Waters Acquity/TQD

None

<b>Mycotoxin</b>	<b>Result (µg/kg)</b>	<b>Action Level (µg/kg)</b>
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**

<b>RESULT &lt; 1/2 AL</b>
<b>1/2 AL &lt; RESULT &lt; AL</b>
<b>RESULT &gt; AL</b>

**Reporting Limit (CFU/g)**

1

"- " not detected above  
reporting limit

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## HEAVY METAL PROFILE

**Analysis Date/Time:** 05/27/2020 0901

**Method:** ICP/MS

**Deviations from SOP:**

**Analyst:** CC

**Instrument:** PerkinElmer Elan 9000

None

<u>Heavy Metal</u>	<u>Result</u> (µg/kg)	<u>Action Level</u> (µg/kg)
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:** 05/27/2020 0901**Method:** Hardy Diagnostics CompactDry**Deviations from SOP:****Analyst:** DJ**Instrument:** Thermo Incubator

None

<b>Bacteria/Microbe</b>	<b>Result (CFU/g)</b>	<b>Action Level (CFU/g)</b>
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**

<b>RESULT &lt; 1/2 AL</b>
<b>1/2 AL &lt; RESULT &lt; AL</b>
<b>RESULT &gt; AL</b>

**Reporting Limit (CFU/g)**

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"- " not detected above  
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