

SUMMARY OF ANALYSIS (SAMPLE ID: SA27781)

Testing Location:	Customer ID: 1648	Order ID: OR8647	Sample Type: Primary
OKC	Red Dirt Sungrown	Lot Number:	Matrix: Flower
3680 E. I-240 Service Rd.	P.O. Box 1399	MAC052703	Mass: 5g
Oklahoma City, OK 73135	Guthrie, OK 73044	Batch Number:	Date Collected: 05/28/2020
License: LAAA-4Y4X-Z72Z	License: GAAA-41RN-M7KD	Not Entered	Date Received: 05/28/2020
Cultivar (Strain) or Sample Description: MAC			Date Completed: 06/02/2020

*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.

Moisture Content (%)	PASS/FAIL	Water Activity (aw)	PASS/FAIL
12.1	PASS	0.36 @ 28.0°C	PASS

<u>Cannabinoids (Top 3)</u>	<u>(%)</u>	<u>mg/g</u>
THCa	19.3	193
Δ9-THC	0.775	8
CBGa	0.665	7
TOTAL CBD	0.0591	0.591
TOTAL THC	17.7	177
TOTAL CANNABINOIDS	21	210

<u>Terpenes (Top 5)</u>	<u>(%)</u>	<u>μg/g</u>
Terpinolene	1.246	12465
β-Ocimene	0.429	4292
β-Caryophyllene	0.416	4160
α-Humulene	0.215	2153
β-Myrcene	0.199	1993
TOTAL TERPENES	3.33	33316

<u>Contaminants</u>	<u>PASS/FAIL</u>
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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Kyle W. Felling
Kyle W. Felling, Ph.D.
Laboratory Director

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CERTIFICATE OF ANALYSIS (SAMPLE ID: SA27781)

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CANNABINOID (POTENCY) PROFILE

Analysis Date/Time: 05/29/2020 0956

Method: HPLC/DAD

Moisture Content (%): 12.1

Analyst: WW

Instrument: Agilent 1100

Water Activity (aw): 0.3634 @ 27.99Å°C

Cannabinoid	Result (%)	Result (mg/g)	Reporting Limit (mg/g)	Result (mg/mL)	Per Unit (mg)
CBD	-	-	0.0513	-	-
CBDa	0.0674	0.674	0.0513	-	0.674
CBDv	0.0131	0.131	0.0513	-	0.131
Δ9-THC	0.775	7.75	0.0513	-	8
Δ8-THC	0.0118	0.118	0.0513	-	0.118
THCa	19.3	193	0.0513	-	193
THCv	0.0227	0.227	0.0513	-	0.227
CBC	0.0758	0.758	0.0513	-	0.758
CBG	0.0447	0.447	0.0513	-	0.447
CBGa	0.665	6.65	0.0513	-	7
CBN	-	-	0.0513	-	-
TOTAL	21	210	-	-	210
TOTAL THC	17.7	177	-	-	177
TOTAL CBD	0.0591	0.591	-	-	0.591

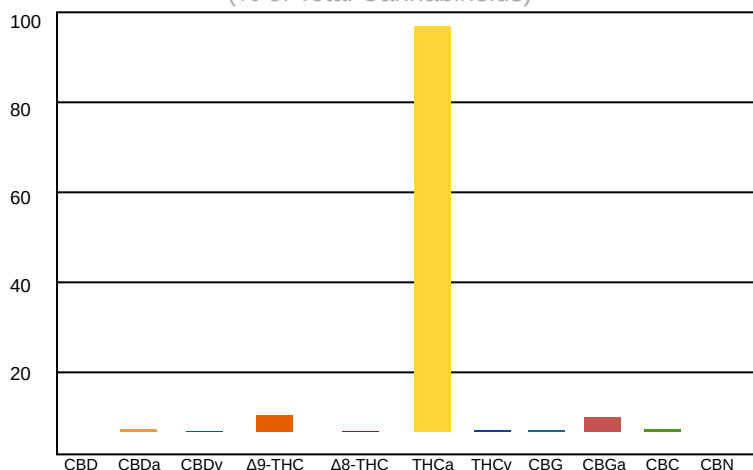


UNIT MASS (g): 1

"-" 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: 05/29/2020 0956

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	1433	0.143	■
Camphene	41	0.00406	■
δ-3-Carene	338	0.0338	■
β-Caryophyllene	4160	0.416	■
Caryophyllene oxide	334	0.0334	■
p-Cymene	56	0.00556	■
Eucalyptol	144	0.0144	■
Geraniol	243	0.0243	■
Guaiol	-	-	
α-Humulene	2153	0.215	■
Isopulegol	-	-	
d-Limonene	1823	0.182	■
Linalool	1257	0.126	■
β-Myrcene	1993	0.199	■
cis-Nerolidol	-	-	
trans-Nerolidol	-	-	
α-Ocimene	169	0.0169	■
β-Ocimene	4292	0.429	■
α-Pinene	652	0.0652	■
β-Pinene	1146	0.115	■
α-Terpinene	362	0.0362	■
γ-Terpinene	258	0.0258	■
Terpinolene	12465	1.25	■
TOTAL	33316	3.33	



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

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Reporting Limit (µg/g): 2.05

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PESTICIDES PROFILE

Analysis Date/Time: 05/29/2020 0956

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

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MYCOTOXIN PROFILE**Analysis Date/Time:** 05/29/2020 0956**Method:** LC/MS/MS**Deviations from SOP:****Analyst:** DJ**Instrument:** Waters Acquity/TQD

None

Mycotoxin	Result (µg/kg)	Action Level (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:** 05/29/2020 0956**Method:** ICP/MS**Deviations from SOP:****Analyst:** CC**Instrument:** PerkinElmer Elan 9000

None

Heavy Metal	Result (µg/kg)	Action Level (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:** 05/29/2020 0956**Method:** Hardy Diagnostics CompactDry**Deviations from SOP:****Analyst:** DJ**Instrument:** Thermo Incubator

None

Bacteria/Microbe	Result (CFU/g)	Action Level (CFU/g)
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
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