

CERTIFICATE OF ANALYSIS (SAMPLE ID: SA28236)

Testing Location: OKC 3680 E. I-240 Service Rd. Oklahoma City, OK 73135 License: LAAA-4Y4X-Z72Z	Customer ID: 1648 Red Dirt Sungrown P.O. Box 1399 Guthrie, OK 73044 License: GAAA-41RN-M7KD	Order ID: OR8793 Lot Number: PM060406 Batch Number: Not Entered	Sample Type: Primary Matrix: Flower Mass: 5g Date Collected: 06/08/2020 Date Received: 06/08/2020
Cultivar (Strain) or Sample Description: Pineapple Muffin			Date Completed: 06/15/2020

CANNABINOID (POTENCY) PROFILE

Analysis Date/Time: 06/10/2020 1046
Analyst: WW

Method: HPLC/DAD
Instrument: Agilent 1100

Moisture Content (%): -
Water Activity (aw): -

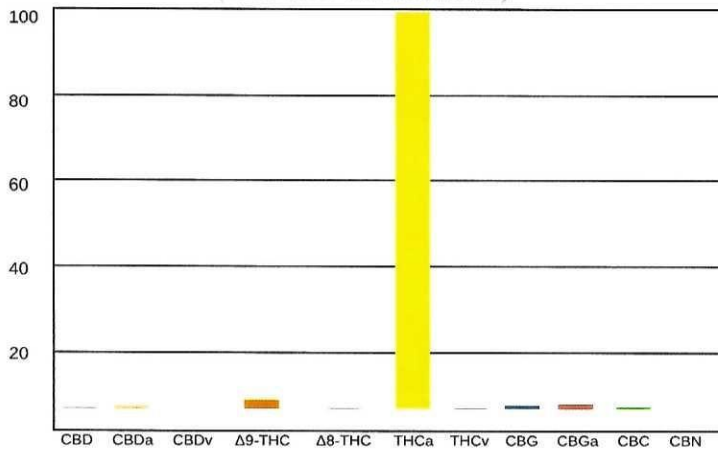
<u>Cannabinoid</u>	<u>Result (%)</u>	<u>Result (mg/g)</u>	<u>Reporting Limit (mg/g)</u>	<u>Result (mg/mL)</u>	<u>Per Unit (mg)</u>
CBD	0.013	0.13	0.05	-	0.13
CBDa	0.0856	0.856	0.05	-	0.856
CBDv	0.00636	0.0636	0.05	-	0.0636
Δ9-THC	0.487	5	0.05	-	5
Δ8-THC	0.0213	0.213	0.05	-	0.213
THCa	21	210	0.05	-	210
THCv	0.029	0.29	0.05	-	0.29
CBC	0.0979	0.979	0.05	-	0.979
CBG	0.185	1.85	0.05	-	1.85
CBGa	0.259	3	0.05	-	3
CBN	-	-	0.05	-	-
TOTAL	22.2	222			222
TOTAL THC	18.9	189			189
TOTAL CBD	0.088	0.88			0.88



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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REPORT OF LABORATORY ANALYSIS

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TERPENOID PROFILE

Analysis Date/Time: 06/10/2020 1046 **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	647	0.0647	■
Camphene	51	0.0051	■
δ-3-Carene	-	-	
β-Caryophyllene	5882	0.588	■
Caryophyllene oxide	59	0.0059	
p-Cymene	-	-	
Eucalyptol	36	0.00362	
Geraniol	91	0.0091	
Guaiol	-	-	
α-Humulene	1761	0.176	■
Isopulegol	-	-	
d-Limonene	1015	0.102	■
Linalool	657	0.0657	■
β-Myrcene	4264	0.426	■
cis-Nerolidol	-	-	
trans-Nerolidol	-	-	
α-Ocimene	57	0.00574	
β-Ocimene	90	0.00898	
α-Pinene	117	0.0117	
β-Pinene	245	0.0245	■
α-Terpinene	-	-	
γ-Terpinene	41	0.00412	■
Terpinolene	-	-	
TOTAL	15012	1.5	



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: 06/10/2020 1046
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
Etoxazole (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: 06/10/2020 1046
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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Kyle W. Felling
Kyle W. Felling, Ph.D.
Laboratory Director

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HEAVY METAL PROFILE

Analysis Date/Time: 06/10/2020 1046	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: 06/09/2020 1323 **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>
Aerobic Plate Count, Total	Absent	-
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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