Arkansas Location
232 S Broadview St
Greenbrier, AR 72058
(501) 679-2616

Oklahoma City Location
3680 E I-240 Service Rd
Oklahoma City, OK 73135
(405) 595-0344

Tulsa Location
14720 E Admiral Pl, Ste H
Tulsa, OK 74108
(918) 340-7139

SUMMARY OF ANALYSIS (SAMPLE ID: SA27116)

Testing Location:	**Customer ID:** 1648	**Order ID:** OR8452	**Sample Type:** Primary
OKC	Red Dirt Sungrown	**Lot Number:**	**Matrix:** Flower
3680 E. I-240 Service Rd.	P.O. Box 1399	PM051308	**Mass:** 5g
Oklahoma City, OK 73135	Guthrie, OK 73044	**Batch Number:**	**Date Collected:** 05/15/2020
License: LAAA-4Y4X-Z72Z	License: GAAA-41RN-M7KD	Not Entered	**Date Received:** 05/15/2020

Cultivar (Strain) or Sample Description: Pineapple Muffin **Date Completed:** 05/19/2020

*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
14.0	PASS	0.46 @ 24.6ºC	PASS

Cannabinoids (Top 3)	(%)	mg/g
THCa	25.5	255
Δ9-THC	0.408	4
CBGa	0.283	3
TOTAL CBD	0.108	1.08
TOTAL THC	22.8	228
TOTAL CANNABINOIDS	26.7	267

Terpenes (Top 5)	(%)	µg/g
β-Caryophyllene	1.185	11850
β-Myrcene	0.465	4646
α-Humulene	0.409	4090
d-Limonene	0.129	1295
Guaiol	0.117	1170
TOTAL TERPENES	2.62	26224

Contaminants	PASS/FAIL
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, Ph.D.
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Cultivar (Strain) or Sample Description: Pineapple Muffin **Date Completed:** 05/19/2020

CANNABINOID (POTENCY) PROFILE

Analysis Date/Time: 05/15/2020 1555 **Method:** HPLC/DAD **Moisture Content (%):** 14
Analyst: WW **Instrument:** Agilent 1100 **Water Activity (aw):** 0.4599 @ 24.62ÂºC

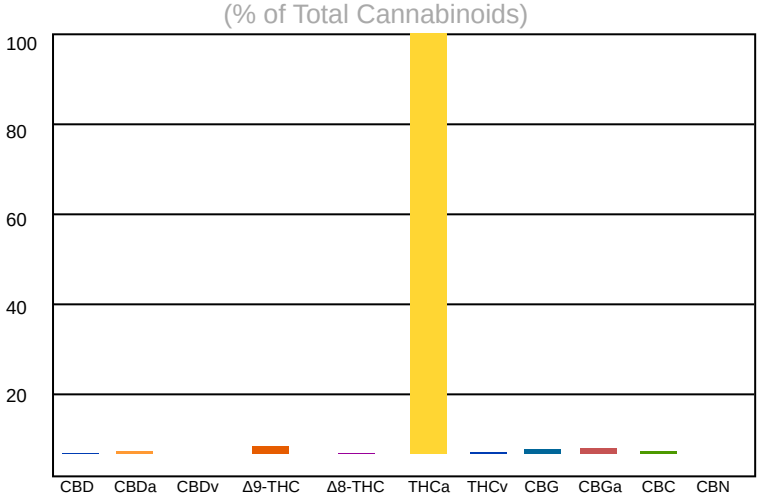
Cannabinoid	Result (%)	Result (mg/g)	Reporting Limit (mg/g)	Result (mg/mL)	Per Unit (mg)
CBD	0.0172	0.172	0.0498	-	0.172
CBDa	0.103	1.03	0.0498	-	1.03
CBDv	-	-	0.0498	-	-
Δ9-THC	0.408	4.08	0.0498	-	4
Δ8-THC	0.0195	0.195	0.0498	-	0.195
THCa	25.5	255	0.0498	-	255
THCv	0.0322	0.322	0.0498	-	0.322
CBC	0.122	1.22	0.0498	-	1.22
CBG	0.234	2.34	0.0498	-	2
CBGa	0.283	2.83	0.0498	-	3
CBN	-	-	0.0498	-	-
TOTAL	26.7	267		-	267
TOTAL THC	22.8	228		-	228
TOTAL CBD	0.108	1.08		-	1.08

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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Cultivar (Strain) or Sample Description: Pineapple Muffin **Date Completed:** 05/19/2020

TERPENOID PROFILE

Analysis Date/Time: 05/15/2020 1555 **Method:** HS/GC/FID (Internal Method-002) **Deviations from SOP:**
Analyst: DJ **Instrument:** Agilent 6890 None

Terpene	Result (µg/g)	Result (%)
α-Bisabolol	786	0.0786
Camphene	170	0.017
δ-3-Carene	-	-
β-Caryophyllene	11850	1.18
Caryophyllene oxide	212	0.0212
p-Cymene	122	0.0122
Eucalyptol	-	-
Geraniol	118	0.0118
Guaiol	1170	0.117
α-Humulene	4090	0.409
Isopulegol	-	-
d-Limonene	1295	0.129
Linalool	968	0.0968
β-Myrcene	4646	0.465
cis-Nerolidol	-	-
trans-Nerolidol	-	-
α-Ocimene	-	-
β-Ocimene	145	0.0145
α-Pinene	227	0.0227
β-Pinene	426	0.0426
α-Terpinene	-	-
γ-Terpinene	-	-
Terpinolene	-	-
TOTAL	26224	2.62

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

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"-" Not detected above RL.

Reporting Limit (µg/g): 1.99

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Cultivar (Strain) or Sample Description: Pineapple Muffin **Date Completed:** 05/19/2020

PESTICIDES PROFILE

Analysis Date/Time: 05/15/2020 1555 **Method:** LC/MS/MS **Deviations from SOP:**
Analyst: DJ **Instrument:** Waters Acquity/TQD None

Pesticide	Result (µg/g)	Action Level (µg/g)
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

Pesticide	Synonym(s)	Pesticide	Synonym(s)	Pesticide	Synonym(s)
Cyfluthrin	Baythroid	Myclobutanil	Systhane	Propiconazole	Tilt
DDVP	Dichlorvos	Naled	Dibrom	Propoxur	Baygon
Ethoprophos	Prophos	Phosmet	Imidan		

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Cultivar (Strain) or Sample Description: Pineapple Muffin **Date Completed:** 05/19/2020

MYCOTOXIN PROFILE

Analysis Date/Time: 05/15/2020 1555 **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: 05/15/2020 1555 **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: 05/15/2020 1555
Analyst: DJ

Method: Hardy Diagnostics CompactDry
Instrument: Thermo Incubator

Deviations from SOP:
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
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RESULT > AL

Reporting Limit (CFU/g)
1

"-" not detected above reporting limit

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