

SUMMARY OF ANALYSIS (SAMPLE ID: SA28002)

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: OR8711 Lot Number: Not Entered Batch Number: Not Entered	Sample Type: Primary Matrix: Flower Mass: 5g Date Collected: 06/02/2020 Date Received: 06/01/2020
Cultivar (Strain) or Sample Description: GG4			Date Completed: 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.

Moisture Content (%) 13.5	PASS/FAIL PASS	Water Activity (aw) 0.45 @ 27.7°C	PASS/FAIL PASS
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Cannabinoids (Top 3)	(%)	mg/g
THCa	23.7	237
CBGa	0.728	7
Δ9-THC	0.588	6
TOTAL CBD	0.0757	0.757
TOTAL THC	21.4	214
TOTAL CANNABINOIDS	25.3	253

Terpenes (Top 5)	(%)	µg/g
β-Myrcene	0.995	9949
d-Limonene	0.592	5922
β-Caryophyllene	0.432	4316
Terpinolene	0.378	3777
β-Ocimene	0.194	1942
TOTAL TERPENES	3.1	30962

Contaminants	PASS/FAIL
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

www.FASTLaboratories.com



CERTIFICATE OF ANALYSIS (SAMPLE ID: SA28002)

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CANNABINOID (POTENCY) PROFILE

Analysis Date/Time: 06/02/2020 1159 **Method:** HPLC/DAD **Moisture Content (%):** 13.5
Analyst: WW **Instrument:** Agilent 1100 **Water Activity (aw):** 0.4549 @ 27.68Å°C

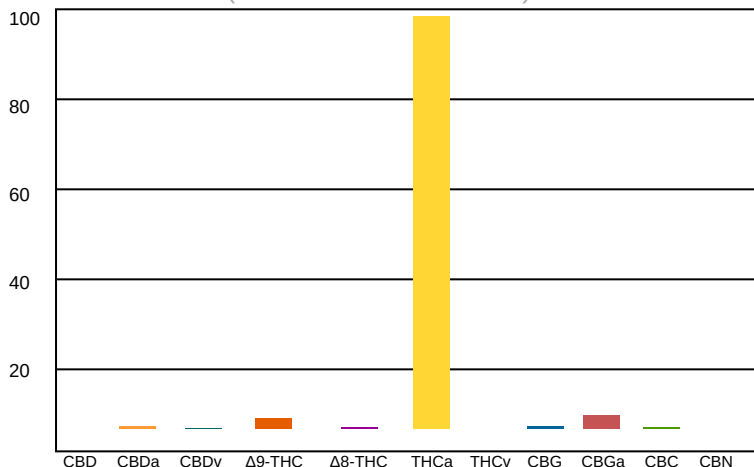
<u>Cannabinoid</u>	<u>Result (%)</u>	<u>Result (mg/g)</u>	<u>Reporting Limit (mg/g)</u>	<u>Result (mg/mL)</u>	<u>Per Unit (mg)</u>
CBD	-	-	0.0508	-	-
CBDa	0.0864	0.864	0.0508	-	0.864
CBDv	0.0131	0.131	0.0508	-	0.131
Δ9-THC	0.588	5.88	0.0508	-	6
Δ8-THC	0.0425	0.425	0.0508	-	0.425
THCa	23.7	237	0.0508	-	237
THCv	-	-	0.0508	-	-
CBC	0.035	0.35	0.0508	-	0.35
CBG	0.0973	0.973	0.0508	-	0.973
CBGa	0.728	7.28	0.0508	-	7
CBN	0.0059	0.059	0.0508	-	0.059
TOTAL	25.3	253			253
TOTAL THC	21.4	214			214
TOTAL CBD	0.0757	0.757			0.757



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: 06/02/2020 1159 **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	665	0.0665	
Camphene	175	0.0175	
δ-3-Carene	150	0.015	
β-Caryophyllene	4316	0.432	
Caryophyllene oxide	226	0.0226	
p-Cymene	52	0.0052	
Eucalyptol	-	-	
Geraniol	-	-	
Guaiol	-	-	
α-Humulene	-	-	
Isopulegol	111	0.0111	
d-Limonene	5922	0.592	
Linalool	694	0.0694	
β-Myrcene	9949	0.995	
cis-Nerolidol	-	-	
trans-Nerolidol	-	-	
α-Ocimene	222	0.0222	
β-Ocimene	1942	0.194	
α-Pinene	803	0.0803	
β-Pinene	1685	0.168	
α-Terpinene	154	0.0154	
γ-Terpinene	120	0.012	
Terpinolene	3777	0.378	
TOTAL	30962	3.1	



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

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"-" Not detected above RL.

Reporting Limit (µg/g): 2.03

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PESTICIDES PROFILE

Analysis Date/Time: 06/02/2020 1159
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: 06/02/2020 1159
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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HEAVY METAL PROFILE

Analysis Date/Time: 06/02/2020 1159 **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: 06/02/2020 1159 **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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