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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: SA27113)

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	MC051414	**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: Mandarin Cookies — **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
15.3	PASS	0.48 @ 24.4ºC	PASS

Cannabinoids (Top 3)	(%)	mg/g
THCa	26.7	267
Δ9-THC	0.444	4
CBGa	0.193	1.93
TOTAL CBD	0.0752	0.752
TOTAL THC	23.8	238
TOTAL CANNABINOIDS	27.6	276

Terpenes (Top 5)	(%)	µg/g
β-Caryophyllene	0.590	5903
α-Humulene	0.331	3311
d-Limonene	0.248	2483
β-Myrcene	0.162	1617
Linalool	0.138	1379
TOTAL TERPENES	1.71	17068

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.
Laboratory Director

REPORT OF LABORATORY ANALYSIS

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CERTIFICATE OF ANALYSIS (SAMPLE ID: SA27113)

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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: OR8452
Lot Number:
MC051414
Batch Number:
Not Entered

Sample Type: Primary
Matrix: Flower
Mass: 5g
Date Collected: 05/15/2020
Date Received: 05/15/2020

Cultivar (Strain) or Sample Description: Mandarin Cookies

Date Completed: 05/19/2020

CANNABINOID (POTENCY) PROFILE

Analysis Date/Time: 05/15/2020 1539
Analyst: WW

Method: HPLC/DAD
Instrument: Agilent 1100

Moisture Content (%): 15.3
Water Activity (aw): 0.4845 @ 24.4ÂºC

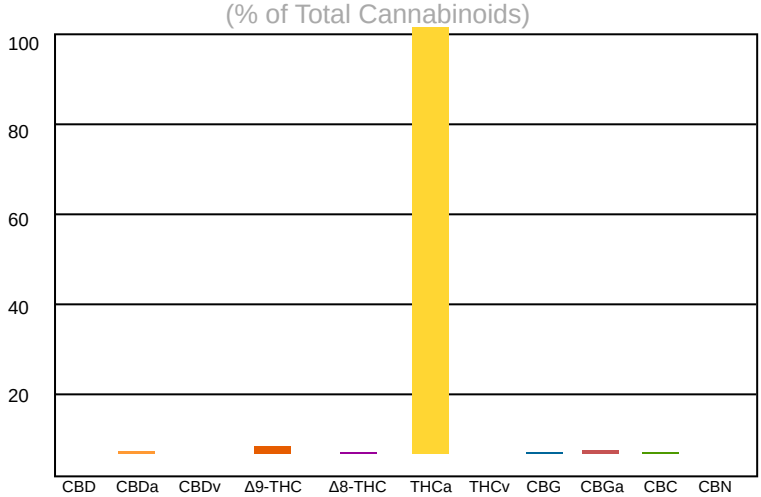
Cannabinoid	Result (%)	Result (mg/g)	Reporting Limit (mg/g)	Result (mg/mL)	Per Unit (mg)
CBD	-	-	0.0516	-	-
CBDa	0.0858	0.858	0.0516	-	0.858
CBDv	0.00889	0.0889	0.0516	-	0.0889
Δ9-THC	0.444	4.44	0.0516	-	4
Δ8-THC	0.0241	0.241	0.0516	-	0.241
THCa	26.7	267	0.0516	-	267
THCv	-	-	0.0516	-	-
CBC	0.0452	0.452	0.0516	-	0.452
CBG	0.0847	0.847	0.0516	-	0.847
CBGa	0.193	1.93	0.0516	-	1.93
CBN	-	-	0.0516	-	-
TOTAL	27.6	276		-	276
TOTAL THC	23.8	238		-	238
TOTAL CBD	0.0752	0.752		-	0.752

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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License: LAAA-4Y4X-Z72Z

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Red Dirt Sungrown
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License: GAAA-41RN-M7KD

Order ID: OR8452
Lot Number:
MC051414
Batch Number:
Not Entered

Sample Type: Primary
Matrix: Flower
Mass: 5g
Date Collected: 05/15/2020
Date Received: 05/15/2020

Cultivar (Strain) or Sample Description: Mandarin Cookies

Date Completed: 05/19/2020

TERPENOID PROFILE

Analysis Date/Time: 05/15/2020 1539
Analyst: DJ

Method: HS/GC/FID (Internal Method-002)
Instrument: Agilent 6890

Deviations from SOP:
None

Terpene	Result (µg/g)	Result (%)
α-Bisabolol	409	0.0409
Camphene	223	0.0223
δ-3-Carene	-	-
β-Caryophyllene	5903	0.59
Caryophyllene oxide	185	0.0185
p-Cymene	-	-
Eucalyptol	-	-
Geraniol	132	0.0132
Guaiol	77	0.00766
α-Humulene	3311	0.331
Isopulegol	183	0.0183
d-Limonene	2483	0.248
Linalool	1379	0.138
β-Myrcene	1617	0.162
cis-Nerolidol	-	-
trans-Nerolidol	-	-
α-Ocimene	-	-
β-Ocimene	150	0.015
α-Pinene	382	0.0382
β-Pinene	635	0.0635
α-Terpinene	-	-
γ-Terpinene	-	-
Terpinolene	-	-
TOTAL	17068	1.71

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

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"-" Not detected above RL.

Reporting Limit (µg/g): 2.07

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SUMMARY OF ANALYSIS (SAMPLE ID: SA27113)

Testing Location:
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License: LAAA-4Y4X-Z72Z

Customer ID: 1648
Red Dirt Sungrown
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License: GAAA-41RN-M7KD

Order ID: OR8452
Lot Number:
MC051414
Batch Number:
Not Entered

Sample Type: Primary
Matrix: Flower
Mass: 5g
Date Collected: 05/15/2020
Date Received: 05/15/2020

Cultivar (Strain) or Sample Description: Mandarin Cookies

Date Completed: 05/19/2020

PESTICIDES PROFILE

Analysis Date/Time: 05/15/2020 1539
Analyst: DJ

Method: LC/MS/MS
Instrument: Waters Acquity/TQD

Deviations from SOP:
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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License: GAAA-41RN-M7KD

Order ID: OR8452
Lot Number:
MC051414
Batch Number:
Not Entered

Sample Type: Primary
Matrix: Flower
Mass: 5g
Date Collected: 05/15/2020
Date Received: 05/15/2020

Cultivar (Strain) or Sample Description: Mandarin Cookies

Date Completed: 05/19/2020

MYCOTOXIN PROFILE

Analysis Date/Time: 05/15/2020 1539
Analyst: DJ

Method: LC/MS/MS
Instrument: Waters Acquity/TQD

Deviations from SOP:
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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Cultivar (Strain) or Sample Description: Mandarin Cookies — **Date Completed:** 05/19/2020

HEAVY METAL PROFILE

Analysis Date/Time: 05/15/2020 1539 — **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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Cultivar (Strain) or Sample Description: Mandarin Cookies

Date Completed: 05/19/2020

MICROBIOLOGICAL PROFILE

Analysis Date/Time: 05/15/2020 1539
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
1/2 AL < RESULT < AL
RESULT > AL

Reporting Limit (CFU/g)
1

"-" not detected above reporting limit

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