

CERTIFICATE OF ANALYSIS

Order Type: Cannabis
Order ID: OR2019-6243

Customer ID: 1648
Customer Name: Red Dirt Sungrown

Harvest/Extract Lot: None
Harvest/Extract Batch: GG122603

Cultivar (Strain): GG4
Sample Date: 12/27/2019

Lab ID: SA2019-19637
Date Received: 12/27/2019

Sample Matrix: Flower
Date Completed: 01/03/2020

Remarks:

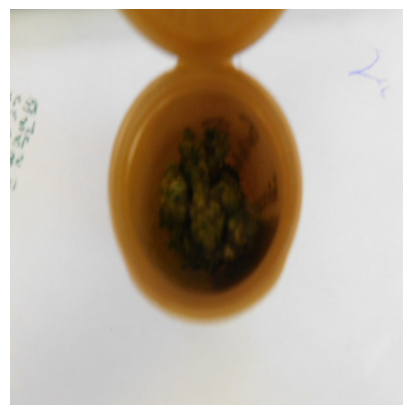
CANNABINOID (POTENCY) PROFILE

Analysis Date/Time: 12/31/2019 1302
Analyst: OL

Method: HPLC/DAD
Instrument: Agilent 1100

Moisture Content (%): 13.9
Water Activity (aw): 0.3484 @ 24.47°C

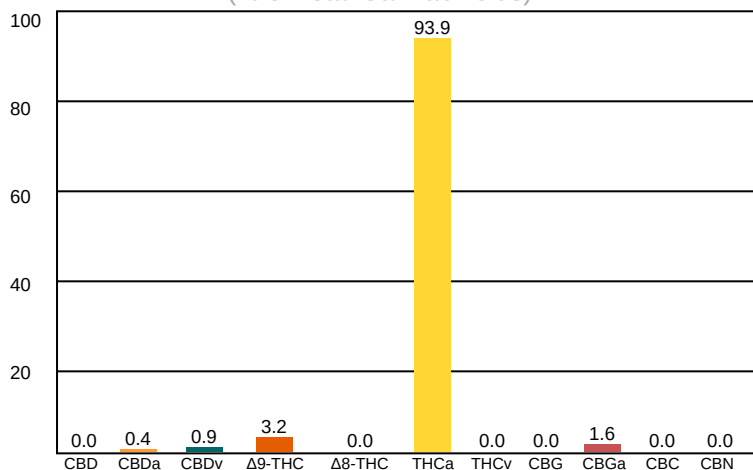
Cannabinoid	Result (%)	Result (mg/g)	Reporting Limit (mg/g)	Result (mg/mL)	Per Unit (mg)
CBD	-	-	0.0504	-	-
CBDa	0.0999	0.999	0.0504	-	0.999
CBDv	0.215	2.15	0.0504	-	2
Δ9-THC	0.76	7.6	0.0504	-	8
Δ8-THC	-	-	0.0504	-	-
THCa	22.4	224	0.0504	-	224
THCv	-	-	0.0504	-	-
CBC	-	-	0.0504	-	-
CBG	-	-	0.0504	-	-
CBGa	0.389	3.89	0.0504	-	4
CBN	-	-	0.0504	-	-
TOTAL	23.9	239		-	239
TOTAL THC	20.4	204		-	204
TOTAL CBD	0.0876	0.876		-	0.876



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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Kyle W. Felling
Kyle W. Felling, Ph.D.
Laboratory Director

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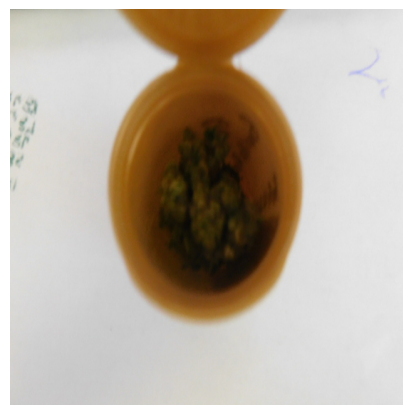
TERPENOID PROFILE

Analysis Date/Time: 12/31/2019 1302
Analyst: OL

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

Deviations from SOP:
None

Terpene	Result (µg/g)	Result (%)	
α-Bisabolol	-	-	
Camphene	182	0.0182	
δ-3-Carene	-	-	
β-Caryophyllene	8196	0.82	
Caryophyllene oxide	779	0.0779	
p-Cymene	-	-	
Eucalyptol	-	-	
Geraniol	-	-	
Guaiol	-	-	
α-Humulene	3026	0.303	
Isopulegol	-	-	
d-Limonene	4079	0.408	
Linalool	718	0.0718	
β-Myrcene	1206	0.121	
cis-Nerolidol	-	-	
trans-Nerolidol	-	-	
α-Ocimene	-	-	
β-Ocimene	-	-	
α-Pinene	387	0.0387	
β-Pinene	575	0.0575	
α-Terpinene	-	-	
γ-Terpinene	-	-	
Terpinolene	-	-	



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

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"-" Not detected above RL.

TOTAL 19149 1.91 **Reporting Limit (µg/g): 2.02**

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Remarks:

PESTICIDES PROFILE

Analysis Date/Time: 12/31/2019 1302
Analyst: OL

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

Deviations from SOP:
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

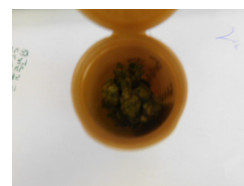
RESULT < 1/2 AL
1/2 AL < RESULT < AL
RESULT > AL

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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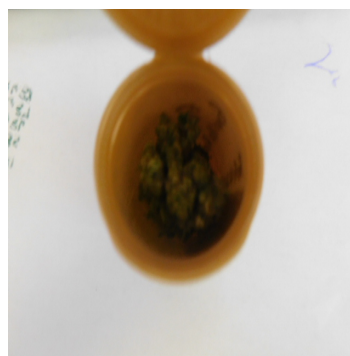
MYCOTOXIN PROFILE

Analysis Date/Time: 12/31/2019 1302
Analyst: OL

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

Deviations from SOP:
None

<u>Mycotoxin</u>	<u>Result</u> <u>(µg/kg)</u>	<u>Action Level</u> <u>(µg/kg)</u>
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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Date Received: 12/27/2019**Sample Matrix:** Flower
Date Completed: 01/03/2020**Remarks:****HEAVY METAL PROFILE****Analysis Date/Time:** 12/31/2019 1302
Analyst: OL**Method:** ICP/MS
Instrument: PerkinElmer Elan 9000**Deviations from SOP:**
None

<u>Heavy Metal</u>	<u>Result</u> <u>(µg/kg)</u>	<u>Action Level</u> <u>(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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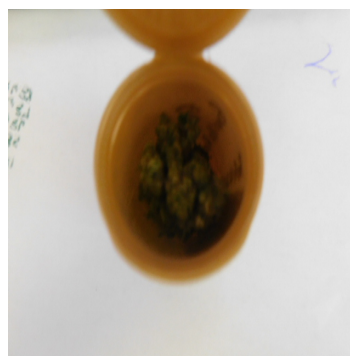
MICROBIOLOGICAL PROFILE

Analysis Date/Time: 12/31/2019 1302
Analyst: JD

Method: Hardy Diagnostics CompactDry
Instrument: Thermo Incubator

Deviations from SOP:
None

<u>Bacteria/Microbe</u>	<u>Result</u> <u>(CFU/g)</u>	<u>Action Level</u> <u>(CFU/g)</u>
Aerobic Plate Count, Total	Absent	-
Escherichia Coli (E. Coli)	Absent	1
Mold	Absent	10000
Yeast	Absent	10000
Salmonella spp.	Absent	1



Abbreviations: EC - Escherichia Coli, CFU - Colony-Forming Unit,
RL - Reporting Limit, AL - Action Level, NT - Not Tested

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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