

## CERTIFICATE OF ANALYSIS

**Order Type:** Cannabis  
**Order ID:** OR2019-6088

**Customer ID:** 1648  
**Customer Name:** Red Dirt Sungrown

**Harvest/Extract Lot:** MAC162001  
**Harvest/Extract Batch:** 11-26-19

**Cultivar (Strain):** Mac  
**Sample Date:** 12/17/2019

**Lab ID:** SA2019-19094  
**Date Received:** 12/17/2019

**Sample Matrix:** Flower  
**Date Completed:** 12/23/2019

### Remarks:

### CANNABINOID (POTENCY) PROFILE

**Analysis Date/Time:** 12/19/2019 2202  
**Analyst:** OL

**Method:** HPLC/DAD  
**Instrument:** Agilent 1100

**Moisture Content (%):** 14.2  
**Water Activity (aw):** 0.3424 @ 23.63°C

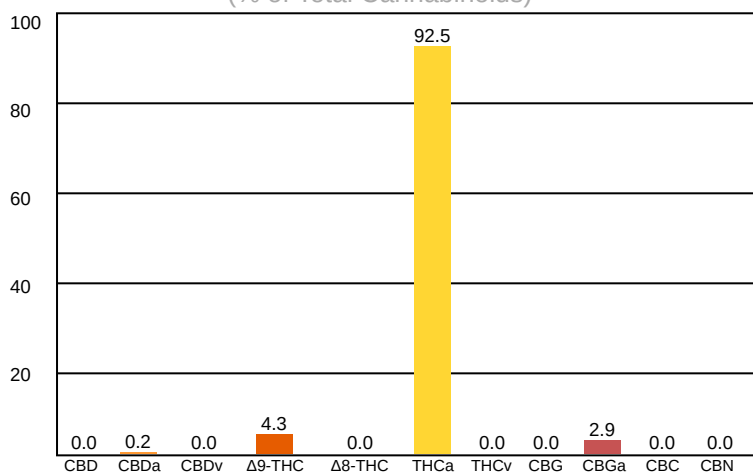
Cannabinoid	Result (%)	Result (mg/g)	Reporting Limit (mg/g)	Result (mg/mL)	Per Unit (mg)
CBD	-	-	0.0504	-	-
CBDa	0.0496	0.496	0.0504	-	0.496
CBDv	-	-	0.0504	-	-
Δ9-THC	0.882	8.82	0.0504	-	9
Δ8-THC	-	-	0.0504	-	-
THCa	19	190	0.0504	-	190
THCv	-	-	0.0504	-	-
CBC	-	-	0.0504	-	-
CBG	-	-	0.0504	-	-
CBGa	0.603	6.03	0.0504	-	6
CBN	-	-	0.0504	-	-
<b>TOTAL</b>	<b>20.5</b>	<b>205</b>		<b>-</b>	<b>205</b>
<b>TOTAL THC</b>	<b>17.5</b>	<b>175</b>		<b>-</b>	<b>175</b>
<b>TOTAL CBD</b>	<b>0.0435</b>	<b>0.435</b>		<b>-</b>	<b>0.435</b>



**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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Laboratory Director

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### TERPENOID PROFILE

**Analysis Date/Time:** 12/19/2019 2202  
**Analyst:** OL

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

**Deviations from SOP:**  
None

Terpene	Result (µg/g)	Result (%)
α-Bisabolol	-	-
Camphene	136	0.0136
δ-3-Carene	306	0.0306
β-Caryophyllene	2048	0.205
Caryophyllene oxide	836	0.0836
p-Cymene	84	0.0084
Eucalyptol	-	-
Geraniol	202	0.0202
Guaiol	-	-
α-Humulene	1280	0.128
Isopulegol	110	0.011
d-Limonene	1928	0.193
Linalool	936	0.0936
β-Myrcene	1946	0.195
cis-Nerolidol	-	-
trans-Nerolidol	-	-
α-Ocimene	260	0.026
β-Ocimene	1834	0.183
α-Pinene	566	0.0566
β-Pinene	966	0.0966
α-Terpinene	346	0.0346
γ-Terpinene	266	0.0266
Terpinolene	10082	1.01
<b>TOTAL</b>	<b>24132</b>	<b>2.41</b>



*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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**Remarks:**

### PESTICIDES PROFILE

**Analysis Date/Time:** 12/19/2019 2202  
**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

<u>Color Key</u>
RESULT < 1/2 AL
1/2 AL < RESULT < AL
RESULT > AL
<b>Reporting Limit (µg/g)</b> 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 <i>cis</i> - and <i>trans</i> -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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**Date Completed:** 12/23/2019**Remarks:****MYCOTOXIN PROFILE****Analysis Date/Time:** 12/19/2019 2202  
**Analyst:** OL**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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**Date Completed:** 12/23/2019**Remarks:****HEAVY METAL PROFILE****Analysis Date/Time:** 12/19/2019 2202  
**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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**Date Completed:** 12/23/2019**Remarks:****MICROBIOLOGICAL PROFILE****Analysis Date/Time:** 12/19/2019 2202  
**Analyst:** OL**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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