

CERTIFICATE OF ANALYSIS

Order Type: Cannabis
Order ID: OR2020-6399

Customer ID: 1648
Customer Name: Red Dirt Sungrown

Harvest/Extract Lot: JH010306
Harvest/Extract Batch: 11/20/19

Cultivar (Strain): Jack Herer
Sample Date: 01/06/2020

Lab ID: SA2020-20187
Date Received: 01/07/2020

Sample Matrix: Flower
Date Completed: 01/14/2020

Remarks:

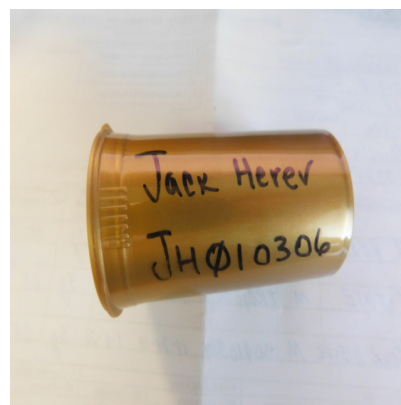
CANNABINOID (POTENCY) PROFILE

Analysis Date/Time: 01/09/2020 0338
Analyst: OL

Method: HPLC/DAD
Instrument: Agilent 1100

Moisture Content (%): 9.4
Water Activity (aw): 0.3194 @ 24.24°C

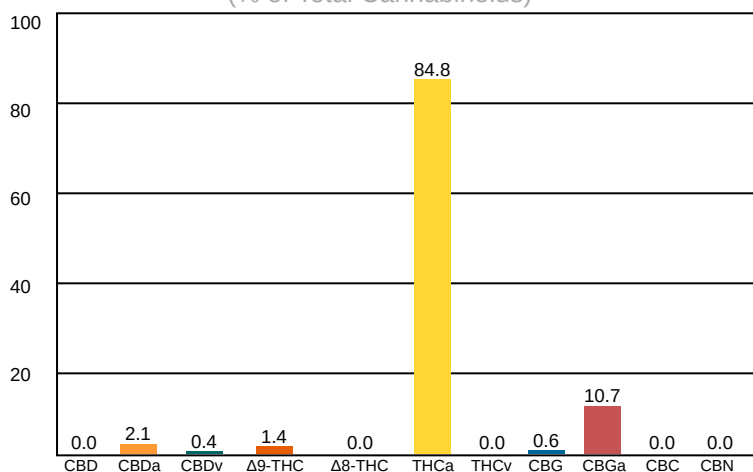
Cannabinoid	Result (%)	Result (mg/g)	Reporting Limit (mg/g)	Result (mg/mL)	Per Unit (mg)
CBD	-	-	0.0503	-	-
CBDa	0.48	4.8	0.0503	-	5
CBDv	0.0867	0.867	0.0503	-	0.867
Δ9-THC	0.333	3.33	0.0503	-	3
Δ8-THC	-	-	0.0503	-	-
THCa	19.6	196	0.0503	-	196
THCv	-	-	0.0503	-	-
CBC	-	-	0.0503	-	-
CBG	0.134	1.34	0.0503	-	1.34
CBGa	2.47	24.7	0.0503	-	25
CBN	-	-	0.0503	-	-
TOTAL	23.1	231			231
TOTAL THC	17.5	175			175
TOTAL CBD	0.421	4			4



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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REPORT OF LABORATORY ANALYSIS

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

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TERPENOID PROFILE

Analysis Date/Time: 01/09/2020 0338
Analyst: OL

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

Deviations from SOP:
None

Terpene	Result (µg/g)	Result (%)	
α-Bisabolol	-	-	
Camphene	-	-	
δ-3-Carene	259	0.0259	█
β-Caryophyllene	1387	0.139	█
Caryophyllene oxide	-	-	
p-Cymene	-	-	
Eucalyptol	-	-	
Geraniol	-	-	
Guaiol	736	0.0736	█
α-Humulene	420	0.042	█
Isopulegol	-	-	
d-Limonene	1323	0.132	█
Linalool	442	0.0442	█
β-Myrcene	2587	0.259	█
cis-Nerolidol	-	-	
trans-Nerolidol	-	-	
α-Ocimene	271	0.0271	█
β-Ocimene	3601	0.36	█
α-Pinene	591	0.0591	█
β-Pinene	838	0.0838	█
α-Terpinene	257	0.0257	█
γ-Terpinene	221	0.0221	█
Terpinolene	5257	0.526	█
TOTAL	18193	1.82	



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

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"-" Not detected above RL.

Reporting Limit (µg/g): 2.01

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PESTICIDES PROFILE

Analysis Date/Time: 01/09/2020 0338
Analyst: OL

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

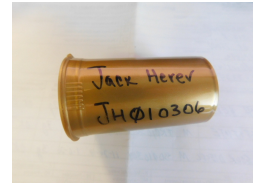
RESULT < 1/2 AL
1/2 AL < RESULT < AL
RESULT > AL

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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MYCOTOXIN PROFILE

Analysis Date/Time: 01/09/2020 0338
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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HEAVY METAL PROFILE

Analysis Date/Time: 01/09/2020 0338
Analyst: CC

Method: ICP/MS
Instrument: PerkinElmer Elan 9000

Deviations from SOP:
None

<u>Heavy Metal</u>	<u>Result</u> (µg/kg)	<u>Action Level</u> (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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Remarks:

MICROBIOLOGICAL PROFILE

Analysis Date/Time: 01/09/2020 0338
Analyst: JD

Method: Hardy Diagnostics CompactDry
Instrument: Thermo Incubator

Deviations from SOP:
None

<u>Bacteria/Microbe</u>	<u>Result (CFU/g)</u>	<u>Action Level (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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