

SUMMARY OF ANALYSIS (SAMPLE ID: SA2020-24479)

Testing Location:	Customer ID: 1648	Order ID: OR2020-7671	Sample Type: Primary
OKC	Red Dirt Sungrown	Lot Number:	Matrix: Flower
3680 E. I-240 Service Rd.	P.O. Box 1399	PE031805	Mass: 5g
Oklahoma City, OK 73135	Guthrie, OK 73044	Batch Number:	Date Collected: 03/20/2020
License: LAAA-4Y4X-Z72Z	License: GAAA-41RN-M7KD	Not Entered	Date Received: 03/20/2020
Cultivar (Strain) or Sample Description: Pineapple Express			Date Completed: 03/25/2020

*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
12.3	PASS	0.43 @ 23.5°C	PASS

Cannabinoids (Top 3)	(%)	mg/g
THCa	20.6	206
Δ9-THC	0.633	6
CBGa	0.619	6
TOTAL CBD	0.0435	0.435
TOTAL THC	18.7	187
TOTAL CANNABINOIDS	22.3	223

Terpenes (Top 5)	(%)	μg/g
α-Pinene	0.091	905
β-Caryophyllene	0.088	885
β-Myrcene	0.088	879
α-Humulene	0.046	461
β-Pinene	0.046	460
TOTAL TERPENES	0.423	4229

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

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CERTIFICATE OF ANALYSIS (SAMPLE ID: SA2020-24479)

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CANNABINOID (POTENCY) PROFILE

Analysis Date/Time: 03/23/2020 1448 **Method:** HPLC/DAD **Moisture Content (%):** 12.3
Analyst: WW **Instrument:** Agilent 1100 **Water Activity (aw):** 0.4299 @ 23.5Â°C

Cannabinoid	Result (%)	Result (mg/g)	Reporting Limit (mg/g)	Result (mg/mL)	Per Unit (mg)
CBD	-	-	0.0509	-	-
CBDa	0.0496	0.496	0.0509	-	0.496
CBDv	0.0175	0.175	0.0509	-	0.175
Δ9-THC	0.633	6.33	0.0509	-	6
Δ8-THC	0.0216	0.216	0.0509	-	0.216
THCa	20.6	206	0.0509	-	206
THCv	-	-	0.0509	-	-
CBC	0.0672	0.672	0.0509	-	0.672
CBG	0.256	2.56	0.0509	-	3
CBGa	0.619	6.19	0.0509	-	6
CBN	0.0115	0.115	0.0509	-	0.115
TOTAL	22.3	223			223
TOTAL THC	18.7	187			187
TOTAL CBD	0.0435	0.435			0.435

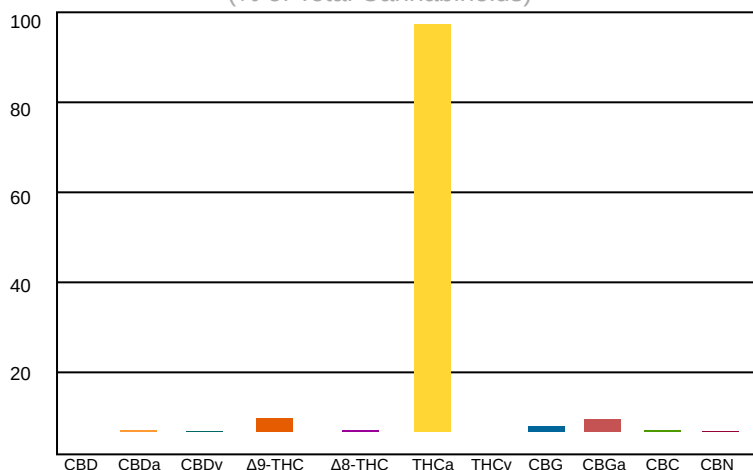


UNIT MASS (g): 1

"-" 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: 03/23/2020 1448

Method: HS/GC/FID (Internal Method-002)

Deviations from SOP:

Analyst: DJ

Instrument: Agilent 6890

None

<u>Terpene</u>	<u>Result</u> (µg/g)	<u>Result</u> (%)	
α-Bisabolol	12	0.00124	
Camphene	22	0.00218	
δ-3-Carene	-	-	
β-Caryophyllene	885	0.0885	■
Caryophyllene oxide	79	0.00788	
p-Cymene	-	-	
Eucalyptol	-	-	
Geraniol	-	-	
Guaiol	-	-	
α-Humulene	461	0.0461	■
Isopulegol	-	-	
d-Limonene	431	0.0431	■
Linalool	95	0.00953	
β-Myrcene	879	0.0879	■
cis-Nerolidol	-	-	
trans-Nerolidol	-	-	
α-Ocimene	-	-	
β-Ocimene	-	-	
α-Pinene	905	0.0905	■
β-Pinene	460	0.046	■
α-Terpinene	-	-	
γ-Terpinene	-	-	
Terpinolene	-	-	
TOTAL	4229	0.423	



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

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Reporting Limit (µg/g): 2.04

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PESTICIDES PROFILE

Analysis Date/Time: 03/23/2020 1448

Method: LC/MS/MS

Deviations from SOP:

Analyst: DJ

Instrument: Waters Acquity/TQD

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:** 03/23/2020 1448**Method:** LC/MS/MS**Deviations from SOP:****Analyst:** DJ**Instrument:** Waters Acquity/TQD

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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HEAVY METAL PROFILE**Analysis Date/Time:** 03/23/2020 1448**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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MICROBIOLOGICAL PROFILE

Analysis Date/Time: 03/23/2020 1448	Method: Hardy Diagnostics CompactDry	Deviations from SOP:
Analyst: KB	Instrument: Thermo Incubator	None

Bacteria/Microbe	Result (CFU/g)	Action Level (CFU/g)
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
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