

SUMMARY OF ANALYSIS (SAMPLE ID: SA28092)

Testing Location:	Customer ID: 710	Order ID: OR8746	Sample Type: Primary
OKC	Sunday Extracts	Lot Number:	Matrix: Concentrate
3680 E. I-240 Service Rd.	1006 North Oak St	Not Entered	Mass: 2g
Oklahoma City, OK 73135	Guthrie, OK 73044	Batch Number:	Date Collected: 06/03/2020
License: LAAA-4Y4X-Z72Z	License: PAAA-NYIN-5SXX	RDS528PZ1240	Date Received: 06/03/2020
Cultivar (Strain) or Sample Description: Patient Zero			Date Completed: 06/08/2020

*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
Not Tested	N/A	Not Tested	N/A

<u>Cannabinoids (Top 3)</u>	<u>(%)</u>	<u>mg/g</u>
THCa	85.9	859
Δ9-THC	1.95	20
CBGa	0.321	3
TOTAL CBD	0.193	1.93
TOTAL THC	77.3	773
TOTAL CANNABINOIDS	88.4	884

<u>Terpenes (Top 5)</u>	<u>(%)</u>	<u>μg/g</u>
β-Caryophyllene	2.083	20826
d-Limonene	1.864	18644
α-Humulene	1.110	11100
β-Pinene	0.505	5048
β-Myrcene	0.397	3972
TOTAL TERPENES	7.56	75630

<u>Contaminants</u>	<u>PASS/FAIL</u>
Heavy Metals:	PASS
Microbiology:	PASS
Mycotoxins:	PASS
Pesticides:	PASS
Residual Solvents:	PASS
Visual Inspection:	PASS

Sample Picture Upon Receipt



Scan the QR code to verify results.

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



CERTIFICATE OF ANALYSIS (SAMPLE ID: SA28092)

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CANNABINOID (POTENCY) PROFILE

Analysis Date/Time: 06/04/2020 0930

Analyst: WW

Method: HPLC/DAD

Instrument: Agilent 1100

Moisture Content (%): -

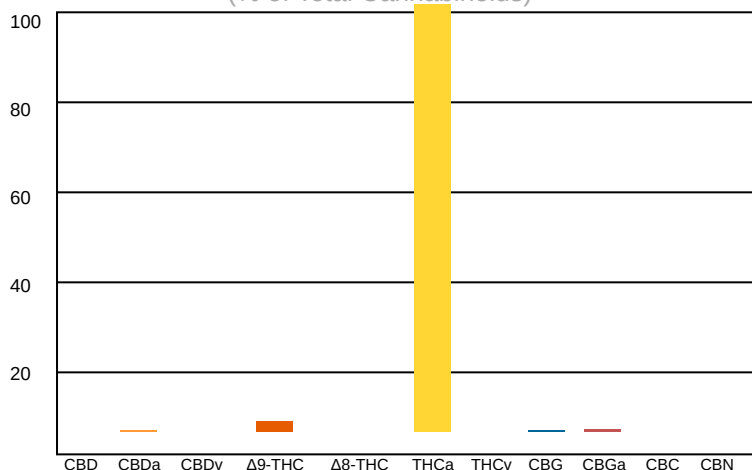
Water Activity (aw): -

Cannabinoid	Result (%)	Result (mg/g)	Reporting Limit (mg/g)	Result (mg/mL)	Per Unit (mg)
CBD	-	-	0.5	-	-
CBDa	0.22	2.2	0.5	-	2
CBDv	-	-	0.5	-	-
Δ9-THC	1.95	19.5	0.5	-	20
Δ8-THC	-	-	0.5	-	-
THCa	85.9	859	0.5	-	859
THCv	-	-	0.5	-	-
CBC	-	-	0.5	-	-
CBG	0.0843	0.843	0.5	-	0.843
CBGa	0.321	3.21	0.5	-	3
CBN	-	-	0.5	-	-
TOTAL	88.4	884	-	-	884
TOTAL THC	77.3	773	-	-	773
TOTAL CBD	0.193	1.93	-	-	1.93



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: 06/04/2020 0930 **Method:** HS/GC/FID (Internal Method-002) **Deviations from SOP:**

Analyst: DJ **Instrument:** Agilent 6890 **None**

<u>Terpene</u>	<u>Result</u> <u>(µg/g)</u>	<u>Result</u> <u>(%)</u>	
α-Bisabolol	1580	0.158	
Camphene	956	0.0956	
δ-3-Carene	204	0.0204	
β-Caryophyllene	20826	2.08	
Caryophyllene oxide	612	0.0612	
p-Cymene	760	0.076	
Eucalyptol	346	0.0346	
Geraniol	-	-	
Guaiol	1544	0.154	
α-Humulene	11100	1.11	
Isopulegol	686	0.0686	
d-Limonene	18644	1.86	
Linalool	2588	0.259	
β-Myrcene	3972	0.397	
cis-Nerolidol	-	-	
trans-Nerolidol	-	-	
α-Ocimene	-	-	
β-Ocimene	2018	0.202	
α-Pinene	3120	0.312	
β-Pinene	5048	0.505	
α-Terpinene	372	0.0372	
γ-Terpinene	-	-	
Terpinolene	1254	0.125	
TOTAL	75630	7.56	



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

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"-" Not detected above RL.

Reporting Limit (µg/g): 20

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RESIDUAL SOLVENT PROFILE

Analysis Date/Time: 06/04/2020 0930

Method: USP <467>

Deviations from SOP:

Analyst: CC

Instrument: Agilent 6890

None

<u>Solvent</u>	<u>Result</u> (µg/g)	<u>Action Level</u> (µg/g)	<u>Color Key</u>
Acetone (67-64-1)	-	1000	RESULT < 1/2 AL
Benzene (71-43-2)	-	2	1/2 AL < RESULT < AL
n-Butane (106-97-2)	-	1000	RESULT > AL
2,2-Dimethylbutane (75-83-2)	-	60	
2,3-Dimethylbutane (79-29-8)	-	60	
Ethyl benzene (100-41-4)	-	430	
n-Heptane (142-82-5)	-	1000	
n-Hexane (110-54-3)	-	60	
Isobutane (75-28-5)	-	1000	
Isopropanol (67-63-0)	-	1000	
2-Methylbutane (78-78-4)	-	1000	
2-Methylpentane (107-83-5)	-	60	
3-Methylpentane (96-10-0)	-	60	
n-Pentane (109-66-0)	-	1000	
n-Propane (74-98-6)	-	1000	
Toluene (108-88-3)	-	180	
o-Xylene (95-47-6)	-	430	
m,p-Xylene (108-38-3 or 106-42-3)	-	430	
Xylenes* (1330-20-7)	-	430	

Reporting Limit (µg/g)
1/2 of AL

"-" not detected above reporting limit

"*" - o,m,p-Xylene and Ethylbenzene



<u>Solvent</u>	<u>Synonym(s)</u>	<u>Solvent</u>	<u>Synonym(s)</u>	<u>Solvent</u>	<u>Synonym(s)</u>
Acetonitrile	Methyl Cyanide, ACN	2-Ethoxyethanol	Cellosolve, Ethyl glycol	Methanol	Methyl alcohol
1-Butanol	n-Butanol, Butyl Alcohol	Ethyl ether	Diethyl ether, Ether	2-Methylbutane	Isopentane
2-Butanol	sec-Butyl alcohol	Ethyl acetate	EtOAc	Methylene chloride	Dichloromethane
2-Butanone	Methyl ethyl ketone, MEK	Ethyl benzene	Phenylethane	2-Methylpentane	Isohexane
1,2-Dimethoxyethane	Monoglyme	Ethylene glycol	1,2-Ethanediol	1-Pentanol	n-Amyl alcohol
2,3-Dimethylbutane	Neohexane	Ethylene oxide	Oxirane	1-Propanol	Propyl alcohol
2,3-Dimethylbutane	Diisopropyl	Isobutane	2-Methylpropane	Tetrahydrofuran	THF
N,N-Dimethylformamide	DMF	Isopropanol	2-Propanol, IPA	Tetramethylene sulfone	Sulfolane
Dimethylsulfoxide	DMSO	Isopropyl Acetate	Acetic acid isopropyl ester	Xylene	Dimethylbenzene

Abbreviations: HS-Headspace, GC-Gas Chromatography, MS-Mass Spectrometry, RL-Reporting Limit, AL-Action Level
CAS-Chemical Abstract Services

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PESTICIDES PROFILE

Analysis Date/Time: 06/04/2020 0930

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)	<u>Color Key</u>
Abamectin (71751-41-2)	-	0.5	RESULT < 1/2 AL
Azoxystrobin (131860-33-8)	-	0.5	1/2 AL < RESULT < AL
Bifenazate* (149877-41-8)	-	0.5	RESULT > AL
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	

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:** 06/04/2020 0930**Method:** LC/MS/MS**Deviations from SOP:****Analyst:** DJ**Instrument:** Waters Acquity/TQD

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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HEAVY METAL PROFILE

Analysis Date/Time: 06/04/2020 0930

Method: ICP/MS

Deviations from SOP:

Analyst: CC

Instrument: PerkinElmer Elan 9000

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

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MICROBIOLOGICAL PROFILE

Analysis Date/Time: 06/04/2020 0930	Method: Hardy Diagnostics CompactDry	Deviations from SOP:
Analyst: DJ	Instrument: Thermo Incubator	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)
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