

SUMMARY OF ANALYSIS (SAMPLE ID: SA32086)

Testing Location:	Customer ID: 2161	Order ID: OR9977	Sample Type: Primary
Arkansas	River Valley Relief Cultivation	Lot Number:	Matrix: Flower
232 S. Broadview St.	5601 Old Greenwood Rd Suite C	M00065C13131150003	Mass: 23g
Greenbrier, AR 72058	Fort Smith, AR 72903	Production Run:	Date Collected: 08/17/2022
License: ADH 113	License: 00065C	6006H20220701CBS1	Date Received: 08/17/2022
Cultivar (Strain) or Sample Description: Crunch Berries			Date Completed: 08/20/2022

*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. All contaminant action levels are referenced from the State of Arkansas MMJ testing guidelines.

Moisture Content (%)

13.2

Water Activity (aw)

0.526 @ 25.0°C

PASS/FAIL

PASS

Moisture content/water activity action levels are referenced from the State of Arkansas MMJ testing guidelines.

Moisture content levels less than 15% are recommended but the sample does not fail. Water activity levels must be less than 0.65aw.

Cannabinoids (Top 3)	(%)	mg/g
THCA	20.8	208
Δ9-THC	0.764	7.64
CBGA	0.403	4.03
TOTAL CBD	0.0504	0.504
TOTAL THC	19.0	190
TOTAL CANNABINOIDS	22.3	223

Terpenes (Top 5)	(%)	µg/g
α-Pinene	0.510	5100
β-Myrcene	0.369	3690
β-Caryophyllene	0.248	2480
β-Pinene	0.239	2390
d-Limonene	0.129	1290
TOTAL TERPENES	1.84	18400

Contaminants	PASS/FAIL
Heavy Metals:	PASS
Microbiology:	PASS
Pesticides:	PASS

Sample Picture Upon Receipt



Scan the QR code to verify results.

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Mandatory Flower

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

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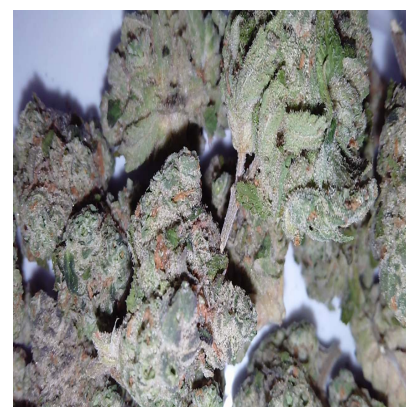
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CANNABINOID (POTENCY) PROFILE (SOP: SOP-CANN-001)

Analysis Date/Time: 8/20/2022 1218	Method: HPLC/DAD	Moisture Content (%): 13.2
Analyst: PW	Instrument: Agilent 1100	Water Activity (aw): 0.5259 @ 25.04°C

<u>Cannabinoid</u>	<u>Result</u> (%)	<u>UM</u> (+/-%)	<u>Result</u> (mg/g)	<u>LOQ</u> (mg/g)	<u>Result</u> (mg/mL)	<u>Per</u> <u>Serving</u> (mg)	<u>Per</u> <u>Unit</u> (mg)
CBC	-	-	-	0.254	-	-	-
CBCA	-	-	-	0.254	-	-	-
CBD	-	-	-	0.254	-	-	-
CBDA	0.0574	0.00574	0.574	0.254	-	0.574	0.574
CBDV	-	-	-	0.254	-	-	-
CBDVA	DET	-	DET	0.254	-	-	-
CBG	0.189	0.0246	1.89	0.254	-	1.89	1.89
CBGA	0.403	0.0443	4.03	0.254	-	4.03	4.03
CBL	-	-	-	0.254	-	-	-
CBN	-	-	-	0.254	-	-	-
CBNA	-	-	-	0.254	-	-	-
Δ9-THC	0.764	0.130	7.64	0.254	-	7.64	7.64
Δ8-THC	-	-	-	0.254	-	-	-
THCA	20.8	2.08	208	0.254	-	208	208
THCV	-	-	-	0.254	-	-	-
THCVA	0.114	0.00570	1.14	0.254	-	1.14	1.14
TOTAL	22.3	2.29	223		-	223	223
TOTAL CBC	-	-	-		-	-	-
TOTAL CBD	0.0504	0.00504	0.504		-	0.504	0.504
TOTAL CBDV	-	-	-		-	-	-
TOTAL CBG	0.543	0.0635	5.43		-	5.43	5.43
TOTAL CBN	-	-	-		-	-	-
TOTAL THC	19.0	1.95	190		-	190	190
TOTAL THCV	0.0989	0.00494	0.989		-	0.989	0.989



SERVING MASS (g): 1.00
SERVINGS/UNIT: 1

"-" Not detected above LOD.

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 CBC = (CBCA x 0.877) + CBC
Total CBD = (CBDA x 0.877) + CBD
Total CBDV = (CBDVA x 0.867) + CBDV
Total CBG = (CBGA x 0.878) + CBG
Total CBN = (CBNA x 0.876) + CBN
Total THC = (THCA x 0.877) + Δ9-THC
Total THCV = (THCVA x 0.867) + THCV

Percentage results are reported by mass.

mg/g results are reported as mass component per mass material.

* CBCA, CBDVA, CBL, CBNA, and THCVA are in process of being added to our accreditation scope.

Abbreviations: DAD - Diode Array Detector, HPLC - High Pressure Liquid Chromatography,
RL - Reporting Limit, RPD - Relative Percent Difference, RSD - Relative Standard Deviation,
DET - Detected (less than LOQ), LOD - Limit of Detection, LOQ - Limit of Quantitation,
UM - Measurement Uncertainty

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Kyle W. Felling, Ph.D.
Laboratory Director



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TERPENOID PROFILE

Analysis Date/Time: 8/19/2022 1954

Method: GC/MS

Deviations from SOP:

Analyst: KF

Instrument: Agilent 7890/5975

None

Terpene	Result (µg/g)	Result (%)	
α-Bisabolol	603	0.0603	
Camphene	113	0.0113	
δ-3-Carene	-	-	
β-Caryophyllene	2480	0.248	
Caryophyllene oxide	105	0.0105	
p-Cymene	-	-	
Eucalyptol	-	-	
Geraniol	159	0.0159	
Guaiol	-	-	
α-Humulene	1050	0.105	
Isopulegol	-	-	
d-Limonene	1290	0.129	
Linalool	1130	0.113	
β-Myrcene	3690	0.369	
cis-Nerolidol	209	0.0209	
trans-Nerolidol	38.5	0.00385	
α-Ocimene	20.8	0.00208	
β-Ocimene	-	-	
α-Pinene	5100	0.510	
β-Pinene	2390	0.239	
α-Terpinene	-	-	
γ-Terpinene	-	-	
Terpinolene	37.4	0.00374	
TOTAL	18400	1.84	



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

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"-" Not detected above RL.

Reporting Limit (µg/g): 18.1

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PESTICIDES PROFILE (SOP: SOP-PEST-001)

Analysis Date/Time: 8/19/2022 1800
Analyst: KF

Method: LC/MS/MS
Instrument: Shimadzu LC-8050

Deviations from SOP:
None

Pesticide	Result (µg/g)	LOD (µg/g)	LOQ (µg/g)	Action Level (µg/g)	Pesticide	Result (µg/g)	LOD (µg/g)	LOQ (µg/g)	Action Level (µg/g)
Abamectin (71751-41-2)	-	0.0181	0.145	0.5	Kresoxim-methyl (143390-89-0)	-	0.0181	0.145	0.4
Acephate (30560-19-1)	-	0.0181	0.145	0.4	Malathion (121-75-5)	-	0.0181	0.145	0.2
Acetaminophen (57960-19-7)	-	0.0181	0.145	2	Metalaxyl (57837-19-1)	-	0.0181	0.145	0.2
Acetamiprid (135410-20-7)	-	0.0181	0.145	0.2	Methiocarb (2032-65-7)	-	0.0181	0.145	0.2
Aldicarb (116-06-3)	-	0.0181	0.145	0.4	Methomyl (16752-77-5)	-	0.0181	0.145	0.4
Azoxystrobin (131860-33-8)	-	0.0181	0.145	0.2	Methyl parathion (298-0-0)	-	0.0181	0.145	0.2
Bifenazate (149877-41-8)	-	0.0181	0.145	0.2	MGK 264 (113-48-4)	-	0.0181	0.145	0.2
Bifenthrin (82657-04-3)	-	0.0181	0.145	0.2	Myclobutanil (88671-89-0)	-	0.0181	0.145	0.2
Boscalid (188425-85-6)	-	0.0181	0.145	0.4	Naled (300-76-5)	-	0.0181	0.145	0.5
Carbaryl (63-25-2)	-	0.0181	0.145	0.2	Oxamyl (23135-22-0)	-	0.0181	0.145	1
Carbofuran (1563-66-2)	-	0.0181	0.145	0.2	Paclobutrazol (76738-62-0)	-	0.0181	0.145	0.4
Chlorantraniliprole (800008-45-7)	-	0.0181	0.145	0.2	Permethrins (52645-53-1)	-	0.0181	0.145	0.2
Chlorfenapyr (122453-73-0)	-	0.0181	0.145	1	Phosmet (732-11-6)	-	0.0181	0.145	0.2
Chlorpyrifos (2921-88-2)	-	0.0181	0.145	0.2	Piperonyl butoxide (51-03-6)	-	0.0181	0.145	2
Clofentezine (74115-24-5)	-	0.0181	0.145	0.2	Prallethrin (2331-36-9)	-	0.0181	0.145	0.2
Cyfluthrin (68359-37-5)	-	0.0181	0.145	1	Propiconazole (60207-90-1)	-	0.0181	0.145	0.4
Cypermethrin (52315-07-8)	-	0.0181	0.145	1	Propoxur (114-26-1)	-	0.0181	0.145	0.2
Daminozide (1596-84-5)	-	0.0181	0.145	1	Pyrethrins (8003-34-7)	-	0.0181	0.145	1
DDVP (62-73-7)	-	0.0181	0.145	0.1	Pyridaben (96489-71-3)	-	0.0181	0.145	0.2
Diazinon (333-41-5)	-	0.0181	0.145	0.2	Spinosad (168316-95-8)	-	0.0181	0.145	0.2
Dimethoate (60-51-5)	-	0.0181	0.145	0.2	Spiromesifen (283594-90-1)	-	0.0181	0.145	0.2
Ethoprophos (13194-48-4)	-	0.0181	0.145	0.2	Spirotetramat (203313-25-1)	-	0.0181	0.145	0.2
Etofenprox (80844-07-1)	-	0.0181	0.145	0.4	Spiroxamine (118134-30-8)	-	0.0181	0.145	0.4
Etoxazole (153233-91-1)	-	0.0181	0.145	0.2	Tebuconazole (80443-41-0)	-	0.0181	0.145	0.4
Fenoxycarb (72490-01-8)	-	0.0181	0.145	0.2	Thiacloprid (111988-49-9)	-	0.0181	0.145	0.2
(E)-Fenpyroximate (134098-61-6)	-	0.0181	0.145	0.4	Thiamethoxam (153719-23-4)	-	0.0181	0.145	0.2
Fipronil (120068-37-3)	-	0.0181	0.145	0.4	Trifloxystrobin (141517-21-7)	-	0.0181	0.145	0.2
Flonicamid (158062-67-0)	-	0.0181	0.145	1					
Fludioxinil (131341-86-1)	-	0.0181	0.145	0.4					
Hexythiazox (78587-05-0)	-	0.0181	0.145	1					
Imazalil (35554-44-0)	-	0.0181	0.145	0.2					
Imidacloprid (138261-41-3)	-	0.0181	0.145	0.4					



Color Key

RESULT < AL
RESULT > AL

"DET" detected less than LOQ

"-" not detected above
LOD

Permethrins measured as the
cumulative residue of the *cis*- and
trans- permethrin isomers.

Pyrethrins measured as the
cumulative residue of the
pyrethrin I, cinerin I, and jasmolin
I isomers.

Action levels are referenced from
the
State of Arkansas MMJ testing
guidelines.

A value of "-" for the action level
means that analyte is not
currently regulated by the
regulations referenced above.

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Abbreviations: LC - Liquid Chromatography, MS - Mass Spectrometry, RL - Reporting Limit, AL - Action Level, CAS - Chemical Abstract Services, LOD - Limit of Detection, LOQ - Limit of Quantification

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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HEAVY METAL PROFILE (SOP: SOP-ICP-200.7)

Analysis Date/Time: 08/19/2022 0957 (ICP/OES)	Method: ICP/OES	Deviations from SOP:
Analysis Date/Time: - (DMA)	Instrument: Agilent 720-ES	None
Analyst: KF		

<u>Heavy Metal</u>	<u>Result</u> (µg/kg)	<u>LOD</u> (µg/kg)	<u>LOQ</u> (µg/kg)	<u>Action Level</u> (µg/kg)
Arsenic (As)	-	58.4	92.4	200
Cadmium (Cd)	-	58.4	92.4	200
Lead (Pb)	-	58.4	92.4	500
Mercury (Hg)	-	58.4	92.4	100



Abbreviations: ICP - Inductively-Coupled Plasma, OES - Optical Emission Spectroscopy,
DMA - Direct Mercury Analyzer, RL - Reporting Limit, AL - Action Level, LOD - Limit of Detection, LOQ - Limit of Quantitation

Color Key

RESULT < AL
RESULT > AL

"DET" detected less than LOQ

"-" not detected above LOD

Action levels for heavy metals are referenced from the State of Arkansas MMJ testing guidelines.

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MICROBIOLOGICAL PROFILE (SOP: SOP-Micro-001)

Analysis Date/Time: 8/19/2022 1314	Method: Hardy Diagnostics CompactDry	Deviations from SOP:
Analyst: PW	Instrument: Thermo Incubator	None

Bacteria/Microbe	Result (CFU/g)	Action Level (CFU/g)
Aerobic Plate Count	NT	-
Coliforms, Total	Absent	1
Escherichia Coli (E. Coli)	Absent	100
Mold/Yeast	NT	-
Pseudomonas aeruginosa	NT	1
Salmonella spp.	NT	-
Staphylococcus aureus	NT	-



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 < AL

RESULT > AL

Reporting Limit (CFU/g)

1

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