

SUMMARY OF ANALYSIS (SAMPLE ID: SA34174)

Testing Location:	Customer ID: 2161	Order ID: OR10269	Sample Type: Primary
Arkansas	River Valley Relief Cultivation	Lot Number:	Matrix: Flower
232 S. Broadview St.	5601 Old Greenwood Rd Suite C	M00065C13134406142	Mass: 23g
Greenbrier, AR 72058	Fort Smith, AR 72903	Production Run:	Date Collected: 01/18/2023
License: ADH 113	License: 00065C	4018H20220902BBF-1	Date Received: 01/18/2023
Cultivar (Strain) or Sample Description: Bens Buffalo			Date Completed: 01/23/2023

*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 (%)

12.3

Water Activity (aw)

0.465 @ 23.8°C

PASS/FAIL

PASS

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

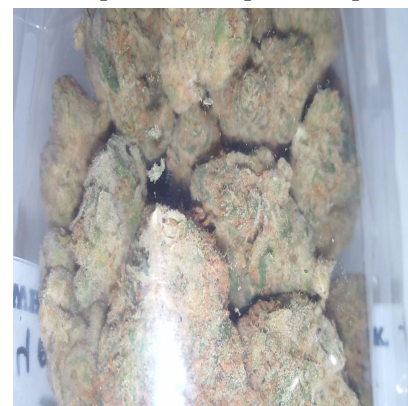
Moisture content levels less than 15% are recommended but the sample does not fail. Water activity levels must be less than 0.65aw.

Cannabinoids (Top 3)	(%)	mg/g
THCA	15.1	151
Δ9-THC	1.05	10.5
CBGA	0.715	7.15
TOTAL CBD	-	-
TOTAL THC	14.3	143
TOTAL CANNABINOIDS	17.6	176

Terpenes (Top 5)	(%)	µg/g
Caryophyllene oxide	0.396	3960
Terpinolene	0.161	1610
Linalool	0.0625	625
β-Myrcene	0.0479	479
β-Ocimene	0.0311	311
TOTAL TERPENES	0.766	7660

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



CERTIFICATE OF ANALYSIS (SAMPLE ID: SA34174)

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

Analysis Date/Time: 1/20/2023 1635

Method: HPLC/DAD

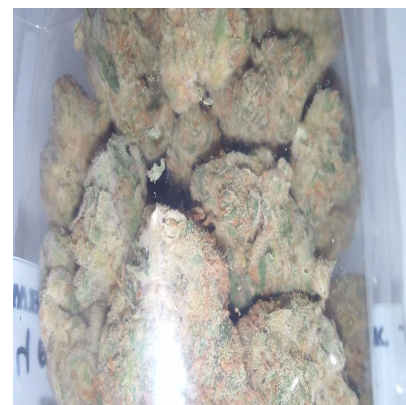
Moisture Content (%): 12.3

Analyst: PW

Instrument: Agilent 1100

Water Activity (aw): 0.465 @ 23.81°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	-	-	-	1.05	-	-	-
CBCA	-	-	-	3.25	-	-	-
CBD	-	-	-	7.38	-	-	-
CBDA	-	-	-	2.72	-	-	-
CBDV	-	-	-	1.18	-	-	-
CBDVA	-	-	-	3.16	-	-	-
CBG	-	-	-	4.79	-	-	-
CBGA	0.715	0.0644	7.15	3.43	-	7.15	7.15
CBL	-	-	-	5.53	-	-	-
CBN	-	-	-	2.54	-	-	-
CBNA	-	-	-	2.74	-	-	-
Δ9-THC	1.05	0.0943	10.5	3.04	-	10.5	10.5
Δ8-THC	-	-	-	4.75	-	-	-
THCA	15.1	1.36	151	1.65	-	151	151
THCV	-	-	-	3.96	-	-	-
THCVA	0.706	0.0212	7.06	1.26	-	7.06	7.06
TOTAL	17.6	1.54	176		-	176	176
TOTAL CBC	-	-	-		-	-	-
TOTAL CBD	-	-	-		-	-	-
TOTAL CBDV	-	-	-		-	-	-
TOTAL CBG	0.628	0.0565	6.28		-	6.28	6.28
TOTAL CBN	-	-	-		-	-	-
TOTAL THC	14.3	1.29	143		-	143	143
TOTAL THC V	0.612	0.0184	6.12		-	6.12	6.12



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 THC V = (THCVA x 0.867) + THC V

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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Cultivar (Strain) or Sample Description: Bens Buffalo			Date Completed: 01/23/2023

TERPENOID PROFILE

Analysis Date/Time: 01/20/2023 2027

Analyst: KF

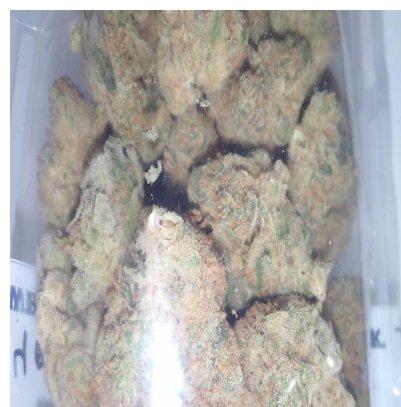
Method: GC/MS

Instrument: Agilent 7890/5975

Deviations from SOP:

None

Terpene	Result (µg/g)	Result (%)	
α-Bisabolol	120	0.0120	
Camphene	-	-	
δ-3-Carene	-	-	
β-Caryophyllene	251	0.0251	
Caryophyllene oxide	3960	0.396	
p-Cymene	-	-	
Eucalyptol	-	-	
Geraniol	-	-	
Guaiol	-	-	
α-Humulene	-	-	
Isopulegol	-	-	
d-Limonene	302	0.0302	
Linalool	625	0.0625	
β-Myrcene	479	0.0479	
cis-Nerolidol	-	-	
trans-Nerolidol	-	-	
α-Ocimene	-	-	
β-Ocimene	311	0.0311	
α-Pinene	-	-	
β-Pinene	-	-	
α-Terpinene	-	-	
γ-Terpinene	-	-	
Terpinolene	1610	0.161	
TOTAL	7660	0.766	



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

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"-" Not detected above RL.

Reporting Limit (µg/g): 45.0

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PESTICIDES PROFILE (SOP: SOP-PEST-001)

Analysis Date/Time: 01/20/2023 1828

Analyst: KF

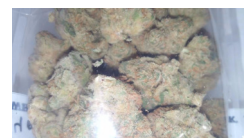
Method: LC/MS/MS

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)	-	0.0450	0.360	0.5	Kresoxim-methyl (143390-89-0)	-	0.0450	0.360	0.4
Acephate (30560-19-1)	-	0.0450	0.360	0.4	Malathion (121-75-5)	-	0.0450	0.360	0.2
Acetaminophen (57960-19-7)	-	0.0450	0.360	2	Metalaxyl (57837-19-1)	-	0.0450	0.360	0.2
Acetamiprid (135410-20-7)	-	0.0450	0.360	0.2	Methiocarb (2032-65-7)	-	0.0450	0.360	0.2
Aldicarb (116-06-3)	-	0.0450	0.360	0.4	Methomyl (16752-77-5)	-	0.0450	0.360	0.4
Azoxystrobin (131860-33-8)	-	0.0450	0.360	0.2	Methyl parathion (298-0-0)	-	0.0450	0.360	0.2
Bifenazate (149877-41-8)	-	0.0450	0.360	0.2	MGK 264 (113-48-4)	-	0.0450	0.360	0.2
Bifenthrin (82657-04-3)	-	0.0450	0.360	0.2	Myclobutanil (88671-89-0)	-	0.0450	0.360	0.2
Boscalid (188425-85-6)	-	0.0450	0.360	0.4	Naled (300-76-5)	-	0.0450	0.360	0.5
Carbaryl (63-25-2)	-	0.0450	0.360	0.2	Oxamyl (23135-22-0)	-	0.0450	0.360	1
Carbofuran (1563-66-2)	-	0.0450	0.360	0.2	Paclobutrazol (76738-62-0)	-	0.0450	0.360	0.4
Chlorantraniliprole (800008-45-7)	-	0.0450	0.360	0.2	Permethrins (52645-53-1)	-	0.0450	0.360	0.2
Chlorfenapyr (122453-73-0)	-	0.0450	0.360	1	Phosmet (732-11-6)	-	0.0450	0.360	0.2
Chlorpyrifos (2921-88-2)	-	0.0450	0.360	0.2	Piperonyl butoxide (51-03-6)	-	0.0450	0.360	2
Clofentezine (74115-24-5)	-	0.0450	0.360	0.2	Prallethrin (2331-36-9)	-	0.0450	0.360	0.2
Cyfluthrin (68359-37-5)	-	0.0450	0.360	1	Propiconazole (60207-90-1)	-	0.0450	0.360	0.4
Cypermethrin (52315-07-8)	-	0.0450	0.360	1	Propoxur (114-26-1)	-	0.0450	0.360	0.2
Daminozide (1596-84-5)	-	0.0450	0.360	1	Pyrethrins (8003-34-7)	-	0.0450	0.360	1
DDVP (62-73-7)	-	0.0450	0.360	0.1	Pyridaben (96489-71-3)	-	0.0450	0.360	0.2
Diazinon (333-41-5)	-	0.0450	0.360	0.2	Spinosad (168316-95-8)	-	0.0450	0.360	0.2
Dimethoate (60-51-5)	-	0.0450	0.360	0.2	Spiromesifen (283594-90-1)	-	0.0450	0.360	0.2
Ethoprophos (13194-48-4)	-	0.0450	0.360	0.2	Spirotetramat (203313-25-1)	-	0.0450	0.360	0.2
Etofenprox (80844-07-1)	-	0.0450	0.360	0.4	Spiroxamine (118134-30-8)	-	0.0450	0.360	0.4
Etoazoxole (153233-91-1)	-	0.0450	0.360	0.2	Tebuconazole (80443-41-0)	-	0.0450	0.360	0.4
Fenoxycarb (72490-01-8)	-	0.0450	0.360	0.2	Thiacloprid (111988-49-9)	-	0.0450	0.360	0.2
(E)-Fenpyroximate (134098-61-6)	-	0.0450	0.360	0.4	Thiamethoxam (153719-23-4)	-	0.0450	0.360	0.2
Fipronil (120068-37-3)	-	0.0450	0.360	0.4	Trifloxystrobin (141517-21-7)	-	0.0450	0.360	0.2
Flonicamid (158062-67-0)	-	0.0450	0.360	1					
Fludioxinil (131341-86-1)	-	0.0450	0.360	0.4					
Hexythiazox (78587-05-0)	-	0.0450	0.360	1					
Imazalil (35554-44-0)	-	0.0450	0.360	0.2					
Imidacloprid (138261-41-3)	-	0.0450	0.360	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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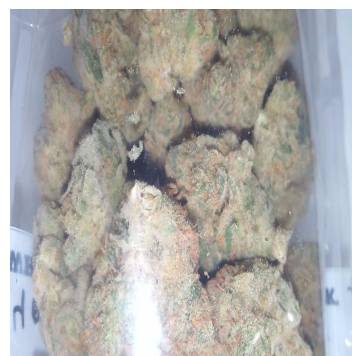
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HEAVY METAL PROFILE (SOP: SOP-ICP-200.7)

Analysis Date/Time: 01/20/2023 1432 (ICP/OES)	Method: ICP/OES	Deviations from SOP:
Analysis Date/Time: - (DMA)	Instrument: Agilent 720-ES	None
Analyst: KF		

Heavy Metal	Result (µg/kg)	LOD (µg/kg)	LOQ (µg/kg)	Action Level (µg/kg)
Arsenic (As)	-	57.0	90.2	200
Cadmium (Cd)	-	57.0	90.2	200
Lead (Pb)	-	57.0	90.2	500
Mercury (Hg)	-	57.0	90.2	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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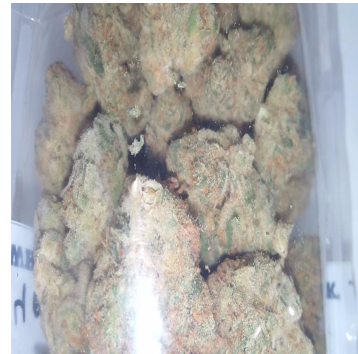
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MICROBIOLOGICAL PROFILE (SOP: SOP-Micro-001)

Analysis Date/Time: 20230120 1138	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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