

**SUMMARY OF ANALYSIS (SAMPLE ID: SA36621)**

<b>Testing Location:</b>	<b>Customer ID:</b> 2161	<b>Order ID:</b> OR10758	<b>Sample Type:</b> Primary
Arkansas	River Valley Relief Cultivation	<b>Lot Number:</b>	<b>Matrix:</b> Flower
232 S. Broadview St.	5601 Old Greenwood Rd Suite C	M00065C13132457788	<b>Mass:</b> 23g
Greenbrier, AR 72058	Fort Smith, AR 72903	<b>Production Run:</b>	<b>Date Collected:</b> 12/11/2023
License: ADH 113	License: 00065C	5047H20231023BBF-2	<b>Date Received:</b> 12/12/2023
<b>Cultivar (Strain) or Sample Description:</b> Bens Buffalo			<b>Date Completed:</b> 12/13/2023

\*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 (%)**

13.4

**Water Activity (aw)**

0.446 @ 24.4°C

**PASS/FAIL**

**PASS**

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

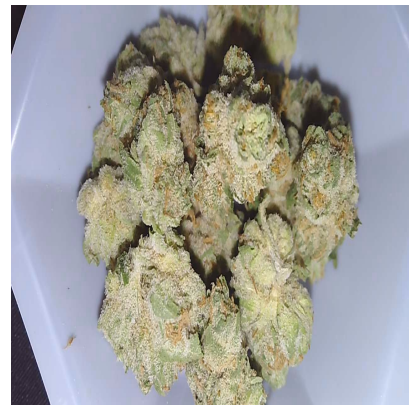
Moisture content levels less than 15% are recommended but the sample does not fail. Water activity levels must be less than 0.65aw.

<b>Cannabinoids (Top 3)</b>	<b>(%)</b>	<b>mg/g</b>
THCA	18.1	181
CBGA	1.01	10.1
THCVA	0.704	7.04
TOTAL CBD	-	-
TOTAL THC	16.5	165
TOTAL CANNABINOIDS	20.4	204

<b>Terpenes (Top 5)</b>	<b>(%)</b>	<b>µg/g</b>
Terpinolene	0.459	4590
β-Pinene	0.176	1760
β-Caryophyllene	0.143	1430
d-Limonene	0.136	1360
β-Ocimene	0.0764	764
TOTAL TERPENES	1.29	12900

<b>Contaminants</b>	<b>PASS/FAIL</b>
Heavy Metals:	<b>PASS</b>
Microbiology:	<b>PASS</b>
Pesticides:	<b>PASS</b>

**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



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

**Analysis Date/Time:** 12/12/2023 1533

**Method:** HPLC/DAD

**Moisture Content (%):** 13.4

**Analyst:** PW

**Instrument:** Agilent 1100

**Water Activity (aw):** 0.446 @ 24.4°C

<u>Cannabinoid</u>	<u>Result</u> (%)	<u>Result</u> (mg/g)	<u>LOD</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	ND	ND	0.0455	0.106	-	-	-
CBCA	ND	ND	0.141	0.329	-	-	-
CBD	ND	ND	0.321	0.748	-	-	-
CBDV	ND	ND	0.118	0.276	-	-	-
CBDVA	ND	ND	0.0514	0.120	-	-	-
CBDVA	ND	ND	0.137	0.320	-	-	-
CBG	ND	ND	0.208	0.486	-	-	-
CBGA	1.01	10.1	0.295	0.348	-	8.78	8.78
CBL	ND	ND	0.240	0.561	-	-	-
CBN	ND	ND	0.110	0.258	-	-	-
CBNA	ND	ND	0.119	0.278	-	-	-
Δ9-THC	0.622	6.22	0.132	0.309	-	5.39	5.39
Δ8-THC	ND	ND	0.207	0.482	-	-	-
THCA	18.1	181	0.0718	0.168	-	157	157
THCV	ND	ND	0.172	0.401	-	-	-
THCVA	0.704	7.04	0.0550	0.128	-	6.10	6.10
<b>TOTAL</b>	<b>20.4</b>	<b>204</b>			-	<b>177</b>	<b>177</b>
<b>TOTAL CBC</b>	-	-			-	-	-
<b>TOTAL CBD</b>	-	-			-	-	-
<b>TOTAL CBDV</b>	-	-			-	-	-
<b>TOTAL CBG</b>	0.890	8.90			-	7.71	7.71
<b>TOTAL CBN</b>	-	-			-	-	-
<b>TOTAL THC</b>	16.5	165			-	143	143
<b>TOTAL THC V</b>	0.611	6.11			-	5.29	5.29



**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 = (CBDV 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

*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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Percentage results are reported by mass.

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

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*Kyle W. Felling*  
Kyle W. Felling, Ph.D.  
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### TERPENOID PROFILE

**Analysis Date/Time:** 12/12/2023 1956

**Analyst:** KF

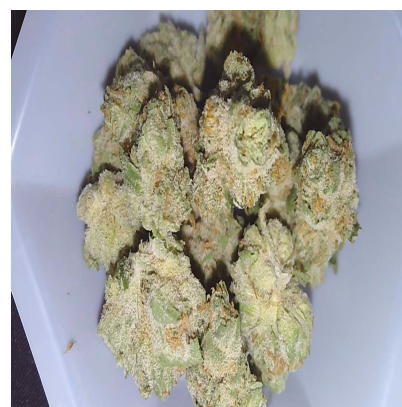
**Method:** GC/MS

**Instrument:** Agilent 7890/5975

**Deviations from SOP:**

None

<u>Terpene</u>	<u>Result</u> (µg/g)	<u>Result</u> (%)	
α-Bisabolol	465	0.0465	■
Camphene	<LOQ	-	
δ-3-Carene	432	0.0432	■
β-Caryophyllene	1430	0.143	■
Caryophyllene oxide	ND	-	
p-Cymene	ND	-	
Eucalyptol	ND	-	
Geraniol	ND	-	
Guaiol	ND	-	
α-Humulene	532	0.0532	■
Isopulegol	ND	-	
d-Limonene	1360	0.136	■
Linalool	731	0.0731	■
β-Myrcene	<LOQ	-	
cis-Nerolidol	166	0.0166	■
trans-Nerolidol	ND	-	
α-Ocimene	ND	-	
β-Ocimene	764	0.0764	■
α-Pinene	399	0.0399	■
β-Pinene	1760	0.176	■
α-Terpinene	166	0.0166	■
γ-Terpinene	133	0.0133	■
Terpinolene	4590	0.459	■
<b>TOTAL</b>	<b>12900</b>	<b>1.29</b>	



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

**Abbreviations:** ND - Not Detected, , LOD - Limit of Detection, LOQ - Limit of Quantitation

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**Reporting Limit (µg/g):** 83.1

"-" Not detected above LOD.

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### PESTICIDES PROFILE (SOP: SOP-PEST-001)

**Analysis Date/Time:** 12/12/2023 1556

**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)	-	0.0495	0.396	0.5	Kresoxim-methyl (143390-89-0)	-	0.0495	0.396	0.4
Acephate (30560-19-1)	-	0.0495	0.396	0.4	Malathion (121-75-5)	-	0.0495	0.396	0.2
Acetaminophen (57960-19-7)	-	0.0495	0.396	2	Metalaxyl (57837-19-1)	-	0.0495	0.396	0.2
Acetamiprid (135410-20-7)	-	0.0495	0.396	0.2	Methiocarb (2032-65-7)	-	0.0495	0.396	0.2
Aldicarb (116-06-3)	-	0.0495	0.396	0.4	Methomyl (16752-77-5)	-	0.0495	0.396	0.4
Azoxystrobin (131860-33-8)	-	0.0495	0.396	0.2	Methyl parathion (298-0-0)	-	0.0495	0.396	0.2
Bifenazate (149877-41-8)	-	0.0495	0.396	0.2	MGK 264 (113-48-4)	-	0.0495	0.396	0.2
Bifenthrin (82657-04-3)	-	0.0495	0.396	0.2	Myclobutanil (88671-89-0)	-	0.0495	0.396	0.2
Boscalid (188425-85-6)	-	0.0495	0.396	0.4	Naled (300-76-5)	-	0.0495	0.396	0.5
Carbaryl (63-25-2)	-	0.0495	0.396	0.2	Oxamyl (23135-22-0)	-	0.0495	0.396	1
Carbofuran (1563-66-2)	-	0.0495	0.396	0.2	Paclobutrazol (76738-62-0)	-	0.0495	0.396	0.4
Chlorantraniliprole (800008-45-7)	-	0.0495	0.396	0.2	Permethrins (52645-53-1)	-	0.0495	0.396	0.2
Chlorfenapyr (122453-73-0)	-	0.0495	0.396	1	Phosmet (732-11-6)	-	0.0495	0.396	0.2
Chlorpyrifos (2921-88-2)	-	0.0495	0.396	0.2	Piperonyl butoxide (51-03-6)	-	0.0495	0.396	2
Clofentezine (74115-24-5)	-	0.0495	0.396	0.2	Prallethrin (2331-36-9)	-	0.0495	0.396	0.2
Cyfluthrin (68359-37-5)	-	0.0495	0.396	1	Propiconazole (60207-90-1))	-	0.0495	0.396	0.4
Cypermethrin (52315-07-8)	-	0.0495	0.396	1	Propoxur (114-26-1)	-	0.0495	0.396	0.2
Daminozide (1596-84-5)	-	0.0495	0.396	1	Pyrethrins (8003-34-7)	-	0.0495	0.396	1
DDVP (62-73-7)	-	0.0495	0.396	0.1	Pyridaben (96489-71-3)	-	0.0495	0.396	0.2
Diazinon (333-41-5)	-	0.0495	0.396	0.2	Spinosad (168316-95-8)	-	0.0495	0.396	0.2
Dimethoate (60-51-5)	-	0.0495	0.396	0.2	Spiromesifen (283594-90-1)	-	0.0495	0.396	0.2
Ethoprophos (13194-48-4)	-	0.0495	0.396	0.2	Spirotetramat (203313-25-1)	-	0.0495	0.396	0.2
Etofenprox (80844-07-1)	-	0.0495	0.396	0.4	Spiroxamine (118134-30-8)	-	0.0495	0.396	0.4
Etoxazole (153233-91-1)	-	0.0495	0.396	0.2	Tebuconazole (80443-41-0)	-	0.0495	0.396	0.4
Fenoxycarb (72490-01-8)	-	0.0495	0.396	0.2	Thiacloprid (111988-49-9)	-	0.0495	0.396	0.2
(E)-Fenpyroximate (134098-61-6)	-	0.0495	0.396	0.4	Thiamethoxam (153719-23-4)	-	0.0495	0.396	0.2
Fipronil (120068-37-3)	-	0.0495	0.396	0.4	Trifloxystrobin (141517-21-7)	-	0.0495	0.396	0.2
Flonicamid (158062-67-0)	-	0.0495	0.396	1					
Fludioxinil (131341-86-1)	-	0.0495	0.396	0.4					
Hexythiazox (78587-05-0)	-	0.0495	0.396	1					
Imazalil (35554-44-0)	-	0.0495	0.396	0.2					
Imidacloprid (138261-41-3)	-	0.0495	0.396	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-200.6)**

<b>Analysis Date/Time:</b> 12/13/2023 0846 (ICP/OES)	<b>Method:</b> ICP/MS	<b>Deviations from SOP:</b>
<b>Analysis Date/Time:</b> - (DMA)	<b>Instrument:</b> Agilent 7500ce	None
<b>Analyst:</b> KF		

<b>Heavy Metal</b>	<b>Result (µg/kg)</b>	<b>LOD (µg/kg)</b>	<b>LOQ (µg/kg)</b>	<b>Action Level (µg/kg)</b>
Arsenic (As)	-	59.0	93.5	200
Cadmium (Cd)	-	59.0	93.5	200
Lead (Pb)	-	59.0	93.5	500
Mercury (Hg)	-	59.0	93.5	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**

<b>RESULT &lt; AL</b>
<b>RESULT &gt; AL</b>

"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:** 12/13/2023 1007  
**Analyst:** PW  
**Method:** Hardy Diagnostics CompactDry  
**Instrument:** Thermo Incubator  
**Deviations from SOP:** None

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

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