

SUMMARY OF ANALYSIS (SAMPLE ID: SA35463)

Testing Location:	Customer ID: 2161	Order ID: OR10498	Sample Type: Primary
Arkansas	River Valley Relief Cultivation	Lot Number:	Matrix: Flower
232 S. Broadview St.	5601 Old Greenwood Rd Suite C	M00065C13138862374	Mass: 9g
Greenbrier, AR 72058	Fort Smith, AR 72903	Production Run:	Date Collected: 06/19/2023
License: ADH 113	License: 00065C	6034H20230504BBF-2	Date Received: 06/20/2023
Cultivar (Strain) or Sample Description: Ben's Buffalo			Date Completed: 06/21/2023

*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 (%)

13.1

Water Activity (aw)

0.459 @ 24.3°C

PASS/FAIL

PASS

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

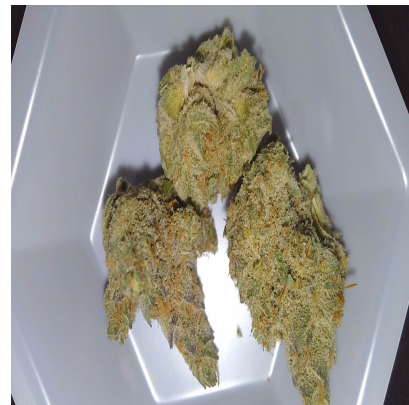
Moisture content levels less than 15% are recommended but the sample does not fail. Water activity levels must be less than 0.65aw.

Cannabinoids (Top 3)	(%)	mg/g
THCA	16.9	169
CBGA	0.902	9.02
Δ9-THC	0.825	8.25
TOTAL CBD	-	-
TOTAL THC	15.7	157
TOTAL CANNABINOIDS	19.3	193

Terpenes (Top 5)	(%)	µg/g
Terpinolene	0.217	2170
β-Myrcene	0.111	1110
β-Ocimene	0.0844	844
d-Limonene	0.0836	836
β-Pinene	0.0486	486
TOTAL TERPENES	0.727	7270

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



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

Analysis Date/Time: 06/20/2023 1636

Method: HPLC/DAD

Moisture Content (%): 13.1

Analyst: PW

Instrument: Agilent 1100

Water Activity (aw): 0.459 @ 24.3°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	0.0429	0.100	-	-	-
CBCA	ND	ND	0.133	0.311	-	-	-
CBD	ND	ND	0.302	0.706	-	-	-
CBDV	ND	ND	0.111	0.260	-	-	-
CBDVA	ND	ND	0.0485	0.113	-	-	-
CBDVA	ND	ND	0.129	0.302	-	-	-
CBG	ND	ND	0.196	0.458	-	-	-
CBGA	0.902	9.02	0.278	0.328	-	9.02	9.02
CBL	ND	ND	0.227	0.529	-	-	-
CBN	ND	ND	0.104	0.243	-	-	-
CBNA	ND	ND	0.112	0.262	-	-	-
Δ9-THC	0.825	8.25	0.125	0.291	-	8.25	8.25
Δ8-THC	ND	ND	0.195	0.455	-	-	-
THCA	16.9	169	0.0677	0.158	-	169	169
THCV	ND	ND	0.162	0.379	-	-	-
THCVA	0.609	6.09	0.0519	0.121	-	6.09	6.09
TOTAL	19.3	193			-	193	193
TOTAL CBC	-	-			-	-	-
TOTAL CBD	-	-			-	-	-
TOTAL CBDV	-	-			-	-	-
TOTAL CBG	0.792	7.92			-	7.92	7.92
TOTAL CBN	-	-			-	-	-
TOTAL THC	15.7	157			-	157	157
TOTAL THCVA	0.528	5.28			-	5.28	5.28



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 THCVA = (THCVA x 0.867) + THCVA

Percentage results are reported by mass.

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

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
Laboratory Director



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TERPENOID PROFILE

Analysis Date/Time: 06/21/2023 0622

Method: GC/MS

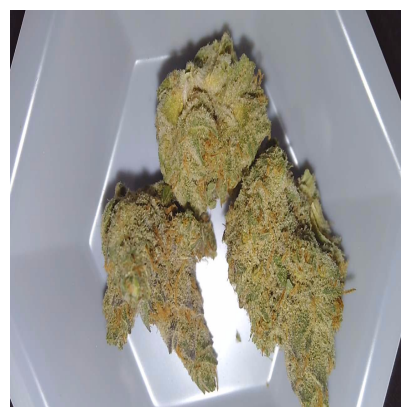
Deviations from SOP:

Analyst: KF

Instrument: Agilent 7890/5975

None

<u>Terpene</u>	<u>Result</u> (µg/g)	<u>Result</u> (%)	
α-Bisabolol	13.0	0.00130	
Camphene	41.5	0.00415	
δ-3-Carene	101	0.0101	
β-Caryophyllene	413	0.0413	
Caryophyllene oxide	-	-	
p-Cymene	-	-	
Eucalyptol	21.6	0.00216	
Geraniol	6.35	0.000635	
Guaiol	-	-	
α-Humulene	166	0.0166	
Isopulegol	-	-	
d-Limonene	836	0.0836	
Linalool	415	0.0415	
β-Myrcene	1110	0.111	
cis-Nerolidol	-	-	
trans-Nerolidol	25.7	0.00257	
α-Ocimene	41.9	0.00419	
β-Ocimene	844	0.0844	
α-Pinene	337	0.0337	
β-Pinene	486	0.0486	
α-Terpinene	140	0.0140	
γ-Terpinene	99.1	0.00991	
Terpinolene	2170	0.217	
TOTAL	7270	0.727	



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

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"-" Not detected above RL.

Reporting Limit (µg/g): 172

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Testing Location: Arkansas 232 S. Broadview St. Greenbrier, AR 72058 License: ADH 113	Customer ID: 2161 River Valley Relief Cultivation 5601 Old Greenwood Rd Suite C Fort Smith, AR 72903 License: 00065C	Order ID: OR10498 Lot Number: M00065C13138862374 Production Run: 6034H20230504BBF-2	Sample Type: Primary Matrix: Flower Mass: 9g Date Collected: 06/19/2023 Date Received: 06/20/2023
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PESTICIDES PROFILE (SOP: SOP-PEST-001)

Analysis Date/Time: 06/20/2023 1736

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)	-	0.0469	0.375	0.5	Kresoxim-methyl (143390-89-0)	-	0.0469	0.375	0.4
Acephate (30560-19-1)	-	0.0469	0.375	0.4	Malathion (121-75-5)	-	0.0469	0.375	0.2
Acetaminophen (57960-19-7)	-	0.0469	0.375	2	Metalaxyl (57837-19-1)	-	0.0469	0.375	0.2
Acetamiprid (135410-20-7)	-	0.0469	0.375	0.2	Methiocarb (2032-65-7)	-	0.0469	0.375	0.2
Aldicarb (116-06-3)	-	0.0469	0.375	0.4	Methomyl (16752-77-5)	-	0.0469	0.375	0.4
Azoxystrobin (131860-33-8)	-	0.0469	0.375	0.2	Methyl parathion (298-0-0)	-	0.0469	0.375	0.2
Bifenazate (149877-41-8)	-	0.0469	0.375	0.2	MGK 264 (113-48-4)	-	0.0469	0.375	0.2
Bifenthrin (82657-04-3)	-	0.0469	0.375	0.2	Myclobutanil (88671-89-0)	-	0.0469	0.375	0.2
Boscalid (188425-85-6)	-	0.0469	0.375	0.4	Naled (300-76-5)	-	0.0469	0.375	0.5
Carbaryl (63-25-2)	-	0.0469	0.375	0.2	Oxamyl (23135-22-0)	-	0.0469	0.375	1
Carbofuran (1563-66-2)	-	0.0469	0.375	0.2	Paclobutrazol (76738-62-0)	-	0.0469	0.375	0.4
Chlorantraniliprole (800008-45-7)	-	0.0469	0.375	0.2	Permethrins (52645-53-1)	-	0.0469	0.375	0.2
Chlorfenapyr (122453-73-0)	-	0.0469	0.375	1	Phosmet (732-11-6)	-	0.0469	0.375	0.2
Chlorpyrifos (2921-88-2)	-	0.0469	0.375	0.2	Piperonyl butoxide (51-03-6)	-	0.0469	0.375	2
Clofentezine (74115-24-5)	-	0.0469	0.375	0.2	Prallethrin (2331-36-9)	-	0.0469	0.375	0.2
Cyfluthrin (68359-37-5)	-	0.0469	0.375	1	Propiconazole (60207-90-1)	-	0.0469	0.375	0.4
Cypermethrin (52315-07-8)	-	0.0469	0.375	1	Propoxur (114-26-1)	-	0.0469	0.375	0.2
Daminozide (1596-84-5)	-	0.0469	0.375	1	Pyrethrins (8003-34-7)	-	0.0469	0.375	1
DDVP (62-73-7)	-	0.0469	0.375	0.1	Pyridaben (96489-71-3)	-	0.0469	0.375	0.2
Diazinon (333-41-5)	-	0.0469	0.375	0.2	Spinosad (168316-95-8)	-	0.0469	0.375	0.2
Dimethoate (60-51-5)	-	0.0469	0.375	0.2	Spiromesifen (283594-90-1)	-	0.0469	0.375	0.2
Ethoprophos (13194-48-4)	-	0.0469	0.375	0.2	Spirotetramat (203313-25-1)	-	0.0469	0.375	0.2
Etofenprox (80844-07-1)	-	0.0469	0.375	0.4	Spiroxamine (118134-30-8)	-	0.0469	0.375	0.4
Etoazoxole (153233-91-1)	-	0.0469	0.375	0.2	Tebuconazole (80443-41-0)	-	0.0469	0.375	0.4
Fenoxycarb (72490-01-8)	-	0.0469	0.375	0.2	Thiacloprid (111988-49-9)	-	0.0469	0.375	0.2
(E)-Fenpyroximate (134098-61-6)	-	0.0469	0.375	0.4	Thiamethoxam (153719-23-4)	-	0.0469	0.375	0.2
Fipronil (120068-37-3)	-	0.0469	0.375	0.4	Trifloxystrobin (141517-21-7)	-	0.0469	0.375	0.2
Flonicamid (158062-67-0)	-	0.0469	0.375	1					
Fludioxinil (131341-86-1)	-	0.0469	0.375	0.4					
Hexythiazox (78587-05-0)	-	0.0469	0.375	1					
Imazalil (35554-44-0)	-	0.0469	0.375	0.2					
Imidacloprid (138261-41-3)	-	0.0469	0.375	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)

Analysis Date/Time: 06/20/2023 1819 (ICP/OES)	Method: ICP/MS	Deviations from SOP:
Analysis Date/Time: - (DMA)	Instrument: Agilent 7500ce	None
Analyst: KF		

Heavy Metal	Result (µg/kg)	LOD (µg/kg)	LOQ (µg/kg)	Action Level (µg/kg)
Arsenic (As)	-	57.3	90.8	200
Cadmium (Cd)	-	57.3	90.8	200
Lead (Pb)	-	57.3	90.8	500
Mercury (Hg)	-	57.3	90.8	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

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MICROBIOLOGICAL PROFILE (SOP: SOP-Micro-001)

Analysis Date/Time: 06/21/2023 0953 **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	-
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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 Kyle W. Felling, Ph.D.
 Laboratory Director

