

SUMMARY OF ANALYSIS (SAMPLE ID: SA32171)

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: OR9999 Lot Number: M00065C13139867925 Production Run: 6006H20220617bbc1	Sample Type: Primary Matrix: Flower Mass: 23g Date Collected: 08/31/2022 Date Received: 09/01/2022
Cultivar (Strain) or Sample Description: Blackberry Cheesecake			Date Completed: 09/06/2022

*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 (%)

14.7

Water Activity (aw)

0.550 @ 25.1°C

PASS/FAIL

PASS

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

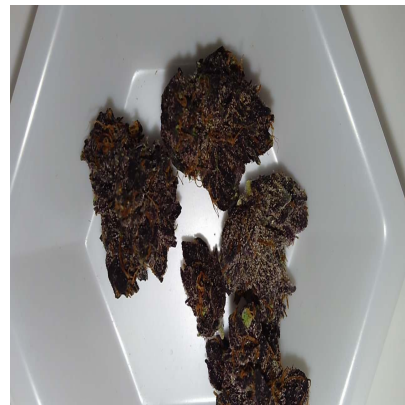
Moisture content levels less than 15% are recommended but the sample does not fail. Water activity levels must be less than 0.65aw.

Cannabinoids (Top 3)	(%)	mg/g
THCA	10.8	108
THCVA	0.389	3.89
Δ9-THC	0.352	3.52
TOTAL CBD	-	-
TOTAL THC	9.82	98.2
TOTAL CANNABINOIDS	11.7	117

Terpenes (Top 5)	(%)	µg/g
d-Limonene	0.210	2100
β-Caryophyllene	0.172	1720
Linalool	0.0990	990
α-Pinene	0.0936	936
β-Pinene	0.0621	621
TOTAL TERPENES	0.826	8260

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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REPORT OF LABORATORY ANALYSIS

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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: 9/2/2022 1345 **Method:** HPLC/DAD **Moisture Content (%):** 14.7
Analyst: PW **Instrument:** Agilent 1100 **Water Activity (aw):** 0.55 @ 25.06°C

<u>Cannabinoid</u>	<u>Result (%)</u>	<u>UM (+/-%)</u>	<u>Result (mg/g)</u>	<u>LOQ (mg/g)</u>	<u>Result (mg/mL)</u>	<u>Per Serving (mg)</u>	<u>Per Unit (mg)</u>
CBC	-	-	-	0.332	-	-	-
CBCA	-	-	-	0.332	-	-	-
CBD	-	-	-	0.332	-	-	-
CBDA	-	-	-	0.332	-	-	-
CBDV	-	-	-	0.332	-	-	-
CBDVA	-	-	-	0.332	-	-	-
CBG	-	-	-	0.332	-	-	-
CBGA	0.185	0.0203	1.85	0.332	-	1.85	1.85
CBL	-	-	-	0.332	-	-	-
CBN	-	-	-	0.332	-	-	-
CBNA	-	-	-	0.332	-	-	-
Δ9-THC	0.352	0.0598	3.52	0.332	-	3.52	3.52
Δ8-THC	-	-	-	0.332	-	-	-
THCA	10.8	1.08	108	0.332	-	108	108
THCV	-	-	-	0.332	-	-	-
THCVA	0.389	0.0194	3.89	0.332	-	3.89	3.89
TOTAL	11.7	1.18	117			117	117
TOTAL CBC	-	-	-			-	-
TOTAL CBD	-	-	-			-	-
TOTAL CBDV	-	-	-			-	-
TOTAL CBG	0.162	0.0178	1.62			1.62	1.62
TOTAL CBN	-	-	-			-	-
TOTAL THC	9.82	1.01	98.2			98.2	98.2
TOTAL THC V	0.337	0.0169	3.37			3.37	3.37



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: Blackberry Cheesecake **Date Completed:** 09/06/2022

TERPENOID PROFILE

Analysis Date/Time: 9/2/2022 1745
Analyst: KF

Method: GC/MS
Instrument: Agilent 7890/5975

Deviations from SOP:
None

<u>Terpene</u>	<u>Result (µg/g)</u>	<u>Result (%)</u>	
α-Bisabolol	154	0.0154	■
Camphene	191	0.0191	■
δ-3-Carene	-	-	
β-Caryophyllene	1720	0.172	■
Caryophyllene oxide	124	0.0124	■
p-Cymene	-	-	
Eucalyptol	-	-	
Geraniol	-	-	
Guaiol	-	-	
α-Humulene	546	0.0546	■
Isopulegol	-	-	
d-Limonene	2100	0.210	■
Linalool	990	0.0990	■
β-Myrcene	-	-	
cis-Nerolidol	307	0.0307	■
trans-Nerolidol	-	-	
α-Ocimene	566	0.0566	■
β-Ocimene	-	-	
α-Pinene	936	0.0936	■
β-Pinene	621	0.0621	■
α-Terpinene	-	-	
γ-Terpinene	-	-	
Terpinolene	-	-	
TOTAL	8260	0.826	



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

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"-" Not detected above RL.

Reporting Limit (µg/g): 18.3

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PESTICIDES PROFILE (SOP: SOP-PEST-001)

Analysis Date/Time: 9/2/2022 1712
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)	-	0.0183	0.147	0.5	Kresoxim-methyl (143390-89-0)	-	0.0183	0.147	0.4
Acephate (30560-19-1)	-	0.0183	0.147	0.4	Malathion (121-75-5)	-	0.0183	0.147	0.2
Acetamiprid (135410-20-7)	-	0.0183	0.147	0.2	Metalaxyl (57837-19-1)	-	0.0183	0.147	0.2
Aldicarb (116-06-3)	-	0.0183	0.147	0.4	Methiocarb (2032-65-7)	-	0.0183	0.147	0.2
Azoxystrobin (131860-33-8)	-	0.0183	0.147	0.2	Methomyl (16752-77-5)	-	0.0183	0.147	0.4
Bifenazate (149877-41-8)	-	0.0183	0.147	0.2	Methyl parathion (298-0-0)	-	0.0183	0.147	0.2
Bifenthrin (82657-04-3)	-	0.0183	0.147	0.2	MGK 264 (113-48-4)	-	0.0183	0.147	0.2
Boscalid (188425-85-6)	-	0.0183	0.147	0.4	Myclobutanil (88671-89-0)	-	0.0183	0.147	0.2
Carbaryl (63-25-2)	-	0.0183	0.147	0.2	Naled (300-76-5)	-	0.0183	0.147	0.5
Carbofuran (1563-66-2)	-	0.0183	0.147	0.2	Oxamyl (23135-22-0)	-	0.0183	0.147	1
Chlorantraniliprole (800008-45-7)	-	0.0183	0.147	0.2	Pacllobutrazol (76738-62-0)	-	0.0183	0.147	0.4
Chlorfenapyr (122453-73-0)	-	0.0183	0.147	1	Permethrins (52645-53-1)	-	0.0183	0.147	0.2
Chlorpyrifos (2921-88-2)	-	0.0183	0.147	0.2	Phosmet (732-11-6)	-	0.0183	0.147	0.2
Clofentezine (74115-24-5)	-	0.0183	0.147	0.2	Piperonyl butoxide (51-03-6)	-	0.0183	0.147	2
Cyfluthrin (68359-37-5)	-	0.0183	0.147	1	Prallethrins (2331-36-9)	-	0.0183	0.147	0.2
Cypermethrin (52315-07-8)	-	0.0183	0.147	1	Propiconazole (60207-90-1)	-	0.0183	0.147	0.4
Daminozide (1596-84-5)	-	0.0183	0.147	1	Propoxur (114-26-1)	-	0.0183	0.147	0.2
DDVP (62-73-7)	-	0.0183	0.147	0.1	Pyrethrins (8003-34-7)	-	0.0183	0.147	1
Diazinon (333-41-5)	-	0.0183	0.147	0.2	Pyridaben (96489-71-3)	-	0.0183	0.147	0.2
Dimethoate (60-51-5)	-	0.0183	0.147	0.2	Spinosad (168316-95-8)	-	0.0183	0.147	0.2
Ethoprophos (13194-48-4)	-	0.0183	0.147	0.2	Spiromesifen (283594-90-1)	-	0.0183	0.147	0.2
Etofenprox (80844-07-1)	-	0.0183	0.147	0.4	Spirotetramat (203313-25-1)	-	0.0183	0.147	0.2
Etoxazole (153233-91-1)	-	0.0183	0.147	0.2	Spiroxamine (118134-30-8)	-	0.0183	0.147	0.4
Fenoxycarb (72490-01-8)	-	0.0183	0.147	0.2	Tebuconazole (80443-41-0)	-	0.0183	0.147	0.4
(E)-Fenpyroximate (134098-61-6)	-	0.0183	0.147	0.4	Thiacloprid (111988-49-9)	-	0.0183	0.147	0.2
Fipronil (120068-37-3)	-	0.0183	0.147	0.4	Thiamethoxam (153719-23-4)	-	0.0183	0.147	0.2
Fonicamid (158062-67-0)	-	0.0183	0.147	1	Trifloxystrobin (141517-21-7)	-	0.0183	0.147	0.2
Fludioxinil (131341-86-1)	-	0.0183	0.147	0.4					
Hexythiazox (78587-05-0)	-	0.0183	0.147	1					
Imazalil (35554-44-0)	-	0.0183	0.147	0.2					
Imidacloprid (138261-41-3)	-	0.0183	0.147	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: 09/02/2022 0747 (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> <u>(µg/kg)</u>	<u>LOD</u> <u>(µg/kg)</u>	<u>LOQ</u> <u>(µg/kg)</u>	<u>Action Level</u> <u>(µg/kg)</u>
Arsenic (As)	-	55.9	88.6	200
Cadmium (Cd)	-	55.9	88.6	200
Lead (Pb)	-	55.9	88.6	500
Mercury (Hg)	-	55.9	88.6	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: 20220902 1327 **Method:** Hardy Diagnostics CompactDry **Deviations from SOP:**
Analyst: PW **Instrument:** Thermo Incubator None

<u>Bacteria/Microbe</u>	<u>Result (CFU/g)</u>	<u>Action Level (CFU/g)</u>
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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