

**SUMMARY OF ANALYSIS (SAMPLE ID: SA35285)**

<b>Testing Location:</b> Arkansas 232 S. Broadview St. Greenbrier, AR 72058 License: ADH 113	<b>Customer ID:</b> 2161 River Valley Relief Cultivation 5601 Old Greenwood Rd Suite C Fort Smith, AR 72903 License: 00065C	<b>Order ID:</b> OR10467 <b>Lot Number:</b> M00065C13136928496 <b>Production Run:</b> 5033H20230424BBC-2	<b>Sample Type:</b> Primary <b>Matrix:</b> Flower <b>Mass:</b> 19g <b>Date Collected:</b> 05/23/2023 <b>Date Received:</b> 05/23/2023
<b>Cultivar (Strain) or Sample Description:</b> BlackBerry Cheesecake			<b>Date Completed:</b> 05/25/2023

\*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 (%)**

12.4

**Water Activity (aw)**

0.481 @ 24.7°C

**PASS/FAIL**

**PASS**

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

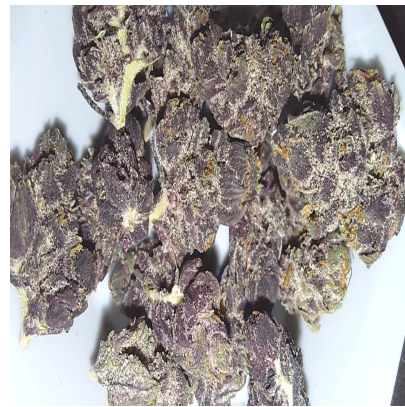
Moisture content levels less than 15% are recommended but the sample does not fail. Water activity levels must be less than 0.65aw.

<b>Cannabinoids (Top 3)</b>	<b>(%)</b>	<b>mg/g</b>
THCA	16.1	161
Δ9-THC	0.497	4.97
THCVA	0.448	4.48
TOTAL CBD	-	-
TOTAL THC	14.6	146
TOTAL CANNABINOIDS	17.3	173

<b>Terpenes (Top 5)</b>	<b>(%)</b>	<b>µg/g</b>
d-Limonene	0.360	3600
α-Pinene	0.218	2180
β-Ocimene	0.181	1810
β-Pinene	0.147	1470
Linalool	0.0836	836
TOTAL TERPENES	1.28	12800

<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:** 05/23/2023 1610      **Method:** HPLC/DAD      **Moisture Content (%):** 12.4  
**Analyst:** PW      **Instrument:** Agilent 1100      **Water Activity (aw):** 0.481 @ 24.7°C

<u>Cannabinoid</u>	<u>Result (%)</u>	<u>Result (mg/g)</u>	<u>LOD (mg/g)</u>	<u>LOQ (mg/g)</u>	<u>Result (mg/mL)</u>	<u>Per Serving (mg)</u>	<u>Per Unit (mg)</u>
CBC	ND	ND	0.0385	0.0898	-	-	-
CBCA	ND	ND	0.119	0.279	-	-	-
CBD	ND	ND	0.271	0.634	-	-	-
CBDV	ND	ND	0.0435	0.102	-	-	-
CBDVA	ND	ND	0.116	0.271	-	-	-
CBG	ND	ND	0.176	0.411	-	-	-
CBGA	0.269	2.69	0.250	0.295	-	2.69	2.69
CBL	ND	ND	0.204	0.475	-	-	-
CBN	ND	ND	0.0935	0.218	-	-	-
CBNA	ND	ND	0.101	0.235	-	-	-
Δ9-THC	0.497	4.97	0.112	0.261	-	4.97	4.97
Δ8-THC	ND	ND	0.175	0.408	-	-	-
THCA	16.1	161	0.0608	0.142	-	161	161
THCV	ND	ND	0.146	0.340	-	-	-
THCVA	0.448	4.48	0.0466	0.108	-	4.48	4.48
<b>TOTAL</b>	<b>17.3</b>	<b>173</b>				<b>173</b>	<b>173</b>
<b>TOTAL CBC</b>	-	-				-	-
<b>TOTAL CBD</b>	-	-				-	-
<b>TOTAL CBDV</b>	-	-				-	-
<b>TOTAL CBG</b>	0.236	2.36				2.36	2.36
<b>TOTAL CBN</b>	-	-				-	-
<b>TOTAL THC</b>	14.6	146				146	146
<b>TOTAL THC V</b>	0.388	3.88				3.88	3.88



**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

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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<b>Cultivar (Strain) or Sample Description:</b> BlackBerry Cheesecake			<b>Date Completed:</b> 05/25/2023

**TERPENOID PROFILE**

**Analysis Date/Time:** 05/23/2023 2248  
**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	-	-	
Camphene	272	0.0272	Orange bar
δ-3-Carene	26.8	0.00268	Blue bar
β-Caryophyllene	701	0.0701	Orange bar
Caryophyllene oxide	-	-	
p-Cymene	17.3	0.00173	Yellow bar
Eucalyptol	-	-	
Geraniol	-	-	
Guaiol	-	-	
α-Humulene	225	0.0225	Green bar
Isopulegol	-	-	
d-Limonene	3600	0.360	Orange bar
Linalool	836	0.0836	Dark green bar
β-Myrcene	399	0.0399	Orange bar
cis-Nerolidol	669	0.0669	Purple bar
trans-Nerolidol	481	0.0481	Yellow bar
α-Ocimene	39.6	0.00396	Blue bar
β-Ocimene	1810	0.181	Dark blue bar
α-Pinene	2180	0.218	Red bar
β-Pinene	1470	0.147	Green bar
α-Terpinene	21.0	0.00210	Purple bar
γ-Terpinene	13.8	0.00138	Yellow bar
Terpinolene	65.6	0.00656	Purple bar
<b>TOTAL</b>	<b>12800</b>	<b>1.28</b>	



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

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"-" Not detected above RL.

**Reporting Limit (µg/g): 49.6**

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

**Analysis Date/Time:** 05/24/2023 0916  
**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)	-	0.0421	0.337	0.5	Kresoxim-methyl (143390-89-0)	-	0.0421	0.337	0.4
Acephate (30560-19-1)	-	0.0421	0.337	0.4	Malathion (121-75-5)	-	0.0421	0.337	0.2
Acetamiprid (135410-20-7)	-	0.0421	0.337	0.2	Metalaxyl (57837-19-1)	-	0.0421	0.337	0.2
Aldicarb (116-06-3)	-	0.0421	0.337	0.4	Methiocarb (2032-65-7)	-	0.0421	0.337	0.2
Azoxystrobin (131860-33-8)	-	0.0421	0.337	0.2	Methomyl (16752-77-5)	-	0.0421	0.337	0.4
Bifenazate (149877-41-8)	-	0.0421	0.337	0.2	Methyl parathion (298-0-0)	-	0.0421	0.337	0.2
Bifenthrin (82657-04-3)	-	0.0421	0.337	0.2	MGK 264 (113-48-4)	-	0.0421	0.337	0.2
Boscalid (188425-85-6)	-	0.0421	0.337	0.4	Myclobutanil (88671-89-0)	-	0.0421	0.337	0.2
Carbaryl (63-25-2)	-	0.0421	0.337	0.2	Naled (300-76-5)	-	0.0421	0.337	0.5
Carbofuran (1563-66-2)	-	0.0421	0.337	0.2	Oxamyl (23135-22-0)	-	0.0421	0.337	1
Chlorantraniliprole (800008-45-7)	-	0.0421	0.337	0.2	Pacllobutrazol (76738-62-0)	-	0.0421	0.337	0.4
Chlorfenapyr (122453-73-0)	-	0.0421	0.337	1	Permethrins (52645-53-1)	-	0.0421	0.337	0.2
Chlorpyrifos (2921-88-2)	-	0.0421	0.337	0.2	Phosmet (732-11-6)	-	0.0421	0.337	0.2
Clofentezine (74115-24-5)	-	0.0421	0.337	0.2	Piperonyl butoxide (51-03-6)	-	0.0421	0.337	2
Cyfluthrin (68359-37-5)	-	0.0421	0.337	1	Prallethrins (2331-36-9)	-	0.0421	0.337	0.2
Cypermethrin (52315-07-8)	-	0.0421	0.337	1	Propiconazole (60207-90-1))	-	0.0421	0.337	0.4
Daminozide (1596-84-5)	-	0.0421	0.337	1	Propoxur (114-26-1)	-	0.0421	0.337	0.2
DDVP (62-73-7)	-	0.0421	0.337	0.1	Pyrethrins (8003-34-7)	-	0.0421	0.337	1
Diazinon (333-41-5)	-	0.0421	0.337	0.2	Pyridaben (96489-71-3)	-	0.0421	0.337	0.2
Dimethoate (60-51-5)	-	0.0421	0.337	0.2	Spinosad (168316-95-8)	-	0.0421	0.337	0.2
Ethoprophos (13194-48-4)	-	0.0421	0.337	0.2	Spiromesifen (283594-90-1)	-	0.0421	0.337	0.2
Etofenprox (80844-07-1)	-	0.0421	0.337	0.4	Spirotetramat (203313-25-1)	-	0.0421	0.337	0.2
Etoxazole (153233-91-1)	-	0.0421	0.337	0.2	Spiroxamine (118134-30-8)	-	0.0421	0.337	0.4
Fenoxycarb (72490-01-8)	-	0.0421	0.337	0.2	Tebuconazole (80443-41-0)	-	0.0421	0.337	0.4
(E)-Fenpyroximate (134098-61-6)	-	0.0421	0.337	0.4	Thiacloprid (111988-49-9)	-	0.0421	0.337	0.2
Fipronil (120068-37-3)	-	0.0421	0.337	0.4	Thiamethoxam (153719-23-4)	-	0.0421	0.337	0.2
Fonicamid (158062-67-0)	-	0.0421	0.337	1	Trifloxystrobin (141517-21-7)	-	0.0421	0.337	0.2
Fludioxinil (131341-86-1)	-	0.0421	0.337	0.4					
Hexythiazox (78587-05-0)	-	0.0421	0.337	1					
Imazalil (35554-44-0)	-	0.0421	0.337	0.2					
Imidacloprid (138261-41-3)	-	0.0421	0.337	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	Sythane	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:** 05/23/2023 1648 (ICP/OES)      **Method:** ICP/MS      **Deviations from SOP:**  
**Analysis Date/Time:** - (DMA)      **Instrument:** Agilent 7500ce      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)	-	57.7	91.4	200
Cadmium (Cd)	-	57.7	91.4	200
Lead (Pb)	-	57.7	91.4	500
Mercury (Hg)	-	57.7	91.4	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**



"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:** 05/24/2023 1130      **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	-
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**



**Reporting Limit (CFU/g)**  
1

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