

**SUMMARY OF ANALYSIS (SAMPLE ID: SA34844)**

<b>Testing Location:</b>	<b>Customer ID:</b> 2161	<b>Order ID:</b> OR10381	<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	M00065C13134788935	<b>Mass:</b> 23g
Greenbrier, AR 72058	Fort Smith, AR 72903	<b>Production Run:</b>	<b>Date Collected:</b> 04/03/2023
License: ADH 113	License: 00065C	7028H20230227LCB-2	<b>Date Received:</b> 04/04/2023
<b>Cultivar (Strain) or Sample Description:</b> Log Cabin			<b>Date Completed:</b> 04/07/2023

\*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 (%)**

12.5

**Water Activity (aw)**

0.425 @ 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	32.1	321
CBGA	2.39	23.9
Δ9-THC	0.497	4.97
TOTAL CBD	-	-
TOTAL THC	28.7	287
TOTAL CANNABINOIDS	35.5	355

<b>Terpenes (Top 5)</b>	<b>(%)</b>	<b>µg/g</b>
d-Limonene	0.757	7570
α-Pinene	0.254	2540
β-Pinene	0.207	2070
β-Caryophyllene	0.206	2060
Linalool	0.175	1750
TOTAL TERPENES	2.00	20000

<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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**CERTIFICATE OF ANALYSIS (SAMPLE ID: SA34844)**

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

**Analysis Date/Time:** 04/05/2023 1807

**Analyst:** PW

**Method:** HPLC/DAD

**Instrument:** Agilent 1100

**Moisture Content (%):** 12.5

**Water Activity (aw):** 0.425 @ 24.45°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	0.216	0.503	-	-	-
CBCA	ND	ND	0.670	1.56	-	-	-
CBD	ND	ND	1.52	3.55	-	-	-
CBDV	ND	ND	0.560	1.31	-	-	-
CBDVA	ND	ND	0.244	0.570	-	-	-
CBG	0.334	3.34	0.651	1.52	-	-	-
CBGA	2.39	23.9	0.988	2.31	-	3.34	3.34
CBL	ND	ND	0.708	1.65	-	23.9	23.9
CBN	ND	ND	1.14	2.67	-	-	-
CBNA	ND	ND	0.524	1.22	-	-	-
Δ9-THC	ND	ND	0.566	1.32	-	-	-
Δ8-THC	0.497	4.97	0.628	1.47	-	4.97	4.97
THCA	ND	ND	0.980	2.29	-	-	-
THCV	32.1	321	0.341	0.797	-	321	321
THCVA	ND	ND	0.818	1.91	-	-	-
THCVA	0.165	1.65	0.261	0.608	-	1.65	1.65
<b>TOTAL</b>	35.5	355			-	355	355
<b>TOTAL CBC</b>	-	-			-	-	-
<b>TOTAL CBD</b>	-	-			-	-	-
<b>TOTAL CBDV</b>	-	-			-	-	-
<b>TOTAL CBG</b>	2.43	24.3			-	24.3	24.3
<b>TOTAL CBN</b>	-	-			-	-	-
<b>TOTAL THC</b>	28.7	287			-	287	287
<b>TOTAL THCVA</b>	0.143	1.43			-	1.43	1.43



**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.

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



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Greenbrier, AR 72058	Fort Smith, AR 72903	<b>Production Run:</b>	<b>Date Collected:</b> 04/03/2023
License: ADH 113	License: 00065C	7028H20230227LCB-2	<b>Date Received:</b> 04/04/2023
<b>Cultivar (Strain) or Sample Description:</b> Log Cabin			<b>Date Completed:</b> 04/07/2023

**TERPENOID PROFILE**

**Analysis Date/Time:** 04/07/2023 0436

**Analyst:** KF

**Method:** GC/MS

**Instrument:** Agilent 7890/5975

**Deviations from SOP:**

None

<b>Terpene</b>	<b>Result (µg/g)</b>	<b>Result (%)</b>	
α-Bisabolol	446	0.0446	
Camphene	270	0.0270	
δ-3-Carene	-	-	
β-Caryophyllene	2060	0.206	
Caryophyllene oxide	-	-	
p-Cymene	-	-	
Eucalyptol	-	-	
Geraniol	-	-	
Guaiol	-	-	
α-Humulene	923	0.0923	
Isopulegol	1160	0.116	
d-Limonene	7570	0.757	
Linalool	1750	0.175	
β-Myrcene	817	0.0817	
cis-Nerolidol	-	-	
trans-Nerolidol	137	0.0137	
α-Ocimene	-	-	
β-Ocimene	272	0.0272	
α-Pinene	2540	0.254	
β-Pinene	2070	0.207	
α-Terpinene	-	-	
γ-Terpinene	-	-	
Terpinolene	-	-	
<b>TOTAL</b>	<b>20000</b>	<b>2.00</b>	



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

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"-" Not detected above RL.

**Reporting Limit (µg/g): 42.7**

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



**CERTIFICATE OF ANALYSIS (SAMPLE ID: SA34844)**

**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:** OR10381

**Lot Number:**  
M00065C13134788935  
**Production Run:**  
7028H20230227LCB-2

**Sample Type:** Primary

**Matrix:** Flower  
**Mass:** 23g  
**Date Collected:** 04/03/2023  
**Date Received:** 04/04/2023

**Cultivar (Strain) or Sample Description:** Log Cabin

**Date Completed:** 04/07/2023

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

**Analysis Date/Time:** 04/06/2023 0157

**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)	-	0.0427	0.342	0.5	Kresoxim-methyl (143390-89-0)	-	0.0427	0.342	0.4
Acephate (30560-19-1)	-	0.0427	0.342	0.4	Malathion (121-75-5)	-	0.0427	0.342	0.2
Acetaminophen (57960-19-7)	-	0.0427	0.342	2	Metalaxyl (57837-19-1)	-	0.0427	0.342	0.2
Acetamiprid (135410-20-7)	-	0.0427	0.342	0.2	Methiocarb (2032-65-7)	-	0.0427	0.342	0.2
Aldicarb (116-06-3)	-	0.0427	0.342	0.4	Methomyl (16752-77-5)	-	0.0427	0.342	0.4
Azoxystrobin (131860-33-8)	-	0.0427	0.342	0.2	Methyl parathion (298-0-0)	-	0.0427	0.342	0.2
Bifenazate (149877-41-8)	-	0.0427	0.342	0.2	MGK 264 (113-48-4)	-	0.0427	0.342	0.2
Bifenthrin (82657-04-3)	-	0.0427	0.342	0.2	Myclobutanil (88671-89-0)	-	0.0427	0.342	0.2
Boscalid (188425-85-6)	-	0.0427	0.342	0.4	Naled (300-76-5)	-	0.0427	0.342	0.5
Carbaryl (63-25-2)	-	0.0427	0.342	0.2	Oxamyl (23135-22-0)	-	0.0427	0.342	1
Carbofuran (1563-66-2)	-	0.0427	0.342	0.2	Paclobutrazol (76738-62-0)	-	0.0427	0.342	0.4
Chlorantraniliprole (800008-45-7)	-	0.0427	0.342	0.2	Permethrins (52645-53-1)	-	0.0427	0.342	0.2
Chlorfenapyr (122453-73-0)	-	0.0427	0.342	1	Phosmet (732-11-6)	-	0.0427	0.342	0.2
Chlorpyrifos (2921-88-2)	-	0.0427	0.342	0.2	Piperonyl butoxide (51-03-6)	-	0.0427	0.342	2
Clofentezine (74115-24-5)	-	0.0427	0.342	0.2	Prallethrin (2331-36-9)	-	0.0427	0.342	0.2
Cyfluthrin (68359-37-5)	-	0.0427	0.342	1	Propiconazole (60207-90-1))	-	0.0427	0.342	0.4
Cypermethrin (52315-07-8)	-	0.0427	0.342	1	Propoxur (114-26-1)	-	0.0427	0.342	0.2
Daminozide (1596-84-5)	-	0.0427	0.342	1	Pyrethrins (8003-34-7)	-	0.0427	0.342	1
DDVP (62-73-7)	-	0.0427	0.342	0.1	Pyridaben (96489-71-3)	-	0.0427	0.342	0.2
Diazinon (333-41-5)	-	0.0427	0.342	0.2	Spinosad (168316-95-8)	-	0.0427	0.342	0.2
Dimethoate (60-51-5)	-	0.0427	0.342	0.2	Spiromesifen (283594-90-1)	-	0.0427	0.342	0.2
Ethoprophos (13194-48-4)	-	0.0427	0.342	0.2	Spirotetramat (203313-25-1)	-	0.0427	0.342	0.2
Etofenprox (80844-07-1)	-	0.0427	0.342	0.4	Spiroxamine (118134-30-8)	-	0.0427	0.342	0.4
Etoxazole (153233-91-1)	-	0.0427	0.342	0.2	Tebuconazole (80443-41-0)	-	0.0427	0.342	0.4
Fenoxycarb (72490-01-8)	-	0.0427	0.342	0.2	Thiacloprid (111988-49-9)	-	0.0427	0.342	0.2
(E)-Fenpyroximate (134098-61-6)	-	0.0427	0.342	0.4	Thiamethoxam (153719-23-4)	-	0.0427	0.342	0.2
Fipronil (120068-37-3)	-	0.0427	0.342	0.4	Trifloxystrobin (141517-21-7)	-	0.0427	0.342	0.2
Flonicamid (158062-67-0)	-	0.0427	0.342	1					
Fludioxinil (131341-86-1)	-	0.0427	0.342	0.4					
Hexythiazox (78587-05-0)	-	0.0427	0.342	1					
Imazalil (35554-44-0)	-	0.0427	0.342	0.2					
Imidacloprid (138261-41-3)	-	0.0427	0.342	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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License: ADH 113	License: 00065C	7028H20230227LCB-2	<b>Date Received:</b> 04/04/2023
<b>Cultivar (Strain) or Sample Description:</b> Log Cabin			<b>Date Completed:</b> 04/07/2023

**HEAVY METAL PROFILE (SOP: SOP-ICP-200.7)**

<b>Analysis Date/Time:</b> 04/05/2023 2235 (ICP/OES)	<b>Method:</b> ICP/OES	<b>Deviations from SOP:</b>
<b>Analysis Date/Time:</b> - (DMA)	<b>Instrument:</b> Agilent 720-ES	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)	-	59.3	93.9	200
Cadmium (Cd)	-	59.3	93.9	200
Lead (Pb)	-	59.3	93.9	500
Mercury (Hg)	-	59.3	93.9	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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<b>Cultivar (Strain) or Sample Description:</b> Log Cabin			<b>Date Completed:</b> 04/07/2023

**MICROBIOLOGICAL PROFILE (SOP: SOP-Micro-001)**

<b>Analysis Date/Time:</b> 20230405	<b>Method:</b> Hardy Diagnostics CompactDry	<b>Deviations from SOP:</b>
<b>Analyst:</b> PW	<b>Instrument:</b> Thermo Incubator	None

<b>Bacteria/Microbe</b>	<b>Result (CFU/g)</b>	<b>Action Level (CFU/g)</b>
Aerobic Plate Count	NT	-
Coliforms, Total	Present	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

Action levels for microbiology 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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