

**SUMMARY OF ANALYSIS (SAMPLE ID: SA35919)**

<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> OR10591 <b>Lot Number:</b> M00065C13133894099 <b>Production Run:</b> 4039H20230807MAC-1	<b>Sample Type:</b> Primary <b>Matrix:</b> Flower <b>Mass:</b> 11Grams <b>Date Collected:</b> 08/28/2023 <b>Date Received:</b> 08/28/2023 <b>Date Completed:</b> 08/30/2023
<b>Cultivar (Strain) or Sample Description:</b> MAC 1			

\*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 (%)**

13.2

**Water Activity (aw)**

0.503 @ 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.

<b>Cannabinoids (Top 3)</b>	<b>(%)</b>	<b>mg/g</b>
THCA	28.4	284
CBGA	1.03	10.3
Δ9-THC	0.347	3.47
TOTAL CBD	-	-
TOTAL THC	25.3	253
TOTAL CANNABINOIDS	30.2	302

<b>Terpenes (Top 5)</b>	<b>(%)</b>	<b>µg/g</b>
d-Limonene	0.409	4090
Linalool	0.188	1880
β-Caryophyllene	0.176	1760
α-Pinene	0.0999	999
β-Pinene	0.0817	817
TOTAL TERPENES	1.12	11200

<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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**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:** 08/29/2023 1826      **Method:** HPLC/DAD      **Moisture Content (%):** 13.2  
**Analyst:** PW      **Instrument:** Agilent 1100      **Water Activity (aw):** 0.503 @ 24.3°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	0.0414	0.0966	-	-	-
CBCA	ND	ND	0.129	0.300	-	-	-
CBD	ND	ND	0.292	0.682	-	-	-
CBDV	ND	ND	0.108	0.251	-	-	-
CBDVA	ND	ND	0.0469	0.109	-	-	-
CBG	0.241	2.41	0.125	0.292	-	-	-
CBGA	1.03	10.3	0.190	0.443	-	2.09	2.09
CBL	ND	ND	0.269	0.317	-	8.90	8.90
CBN	ND	ND	0.219	0.512	-	-	-
CBNA	ND	ND	0.101	0.235	-	-	-
CBNA	ND	ND	0.109	0.253	-	-	-
Δ9-THC	0.347	3.47	0.121	0.281	-	3.01	3.01
Δ8-THC	ND	ND	0.188	0.439	-	-	-
THCA	28.4	284	0.0654	0.153	-	247	247
THCV	ND	ND	0.157	0.366	-	-	-
THCVA	0.216	2.16	0.0501	0.117	-	1.88	1.88
<b>TOTAL</b>	<b>30.2</b>	<b>302</b>				<b>262</b>	<b>262</b>
<b>TOTAL CBC</b>	-	-				-	-
<b>TOTAL CBD</b>	-	-				-	-
<b>TOTAL CBDV</b>	-	-				-	-
<b>TOTAL CBG</b>	1.14	11.4				9.91	9.91
<b>TOTAL CBN</b>	-	-				-	-
<b>TOTAL THC</b>	25.3	253				219	219
<b>TOTAL THC V</b>	0.187	1.87				1.63	1.63



**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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**TERPENOID PROFILE**

**Analysis Date/Time:** 08/29/2023 2206  
**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	454	0.0454	
Camphene	90.8	0.00908	
δ-3-Carene	ND	-	
β-Caryophyllene	1760	0.176	
Caryophyllene oxide	ND	-	
p-Cymene	<LOQ	-	
Eucalyptol	ND	-	
Geraniol	ND	-	
Guaiol	ND	-	
α-Humulene	606	0.0606	
Isopulegol	ND	-	
d-Limonene	4090	0.409	
Linalool	1880	0.188	
β-Myrcene	151	0.0151	
cis-Nerolidol	ND	-	
trans-Nerolidol	363	0.0363	
α-Ocimene	ND	-	
β-Ocimene	ND	-	
α-Pinene	999	0.0999	
β-Pinene	817	0.0817	
α-Terpinene	ND	-	
γ-Terpinene	ND	-	
Terpinolene	ND	-	
<b>TOTAL</b>	<b>11200</b>	<b>1.12</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): 75.7**

"-" Not detected above LOD.

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Kyle W. Felling, Ph.D.  
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[www.FASTLaboratories.com](http://www.FASTLaboratories.com)



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

**Analysis Date/Time:** 08/29/2023 1853      **Method:** LC/MS/MS      **Deviations from SOP:** None  
**Analyst:** KF      **Instrument:** Shimadzu LC-8050

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)	-	0.0453	0.362	0.5	Kresoxim-methyl (143390-89-0)	-	0.0453	0.362	0.4
Acephate (30560-19-1)	-	0.0453	0.362	0.4	Malathion (121-75-5)	-	0.0453	0.362	0.2
Acequinocyl (57960-19-7)	-	0.0453	0.362	2	Metalaxyl (57837-19-1)	-	0.0453	0.362	0.2
Acetamiprid (135410-20-7)	-	0.0453	0.362	0.2	Methiocarb (2032-65-7)	-	0.0453	0.362	0.2
Aldicarb (116-06-3)	-	0.0453	0.362	0.4	Methomyl (16752-77-5)	-	0.0453	0.362	0.4
Azoxystrobin (131860-33-8)	-	0.0453	0.362	0.2	Methyl parathion (298-0-0)	-	0.0453	0.362	0.2
Bifenazate (149877-41-8)	-	0.0453	0.362	0.2	MGK 264 (113-48-4)	-	0.0453	0.362	0.2
Bifenthrin (82657-04-3)	-	0.0453	0.362	0.2	Myclobutanil (88671-89-0)	-	0.0453	0.362	0.2
Boscalid (188425-85-6)	-	0.0453	0.362	0.4	Naled (300-76-5)	-	0.0453	0.362	0.5
Carbaryl (63-25-2)	-	0.0453	0.362	0.2	Oxamyl (23135-22-0)	-	0.0453	0.362	1
Carbofuran (1563-66-2)	-	0.0453	0.362	0.2	Pacllobutrazol (76738-62-0)	-	0.0453	0.362	0.4
Chlorantraniliprole (800008-45-7)	-	0.0453	0.362	0.2	Permethrins (52645-53-1)	-	0.0453	0.362	0.2
Chlorfenapyr (122453-73-0)	-	0.0453	0.362	1	Phosmet (732-11-6)	-	0.0453	0.362	0.2
Chlorpyrifos (2921-88-2)	-	0.0453	0.362	0.2	Piperonyl butoxide (51-03-6)	-	0.0453	0.362	2
Clofentezine (74115-24-5)	-	0.0453	0.362	0.2	Prallethrins (2331-36-9)	-	0.0453	0.362	0.2
Cyfluthrin (68359-37-5)	-	0.0453	0.362	1	Propiconazole (60207-90-1))	-	0.0453	0.362	0.4
Cypermethrin (52315-07-8)	-	0.0453	0.362	1	Propoxur (114-26-1)	-	0.0453	0.362	0.2
Daminozide (1596-84-5)	-	0.0453	0.362	1	Pyrethrins (8003-34-7)	-	0.0453	0.362	1
DDVP (62-73-7)	-	0.0453	0.362	0.1	Pyridaben (96489-71-3)	-	0.0453	0.362	0.2
Diazinon (333-41-5)	-	0.0453	0.362	0.2	Spinosad (168316-95-8)	-	0.0453	0.362	0.2
Dimethoate (60-51-5)	-	0.0453	0.362	0.2	Spiromesifen (283594-90-1)	-	0.0453	0.362	0.2
Ethoprophos (13194-48-4)	-	0.0453	0.362	0.2	Spirotetramat (203313-25-1)	-	0.0453	0.362	0.2
Etofenprox (80844-07-1)	-	0.0453	0.362	0.4	Spiroxamine (118134-30-8)	-	0.0453	0.362	0.4
Etoxazole (153233-91-1)	-	0.0453	0.362	0.2	Tebuconazole (80443-41-0)	-	0.0453	0.362	0.4
Fenoxycarb (72490-01-8)	-	0.0453	0.362	0.2	Thiacloprid (111988-49-9)	-	0.0453	0.362	0.2
(E)-Fenpyroximate (134098-61-6)	-	0.0453	0.362	0.4	Thiamethoxam (153719-23-4)	-	0.0453	0.362	0.2
Fipronil (120068-37-3)	-	0.0453	0.362	0.4	Trifloxystrobin (141517-21-7)	-	0.0453	0.362	0.2
Fonicamid (158062-67-0)	-	0.0453	0.362	1					
Fludioxinil (131341-86-1)	-	0.0453	0.362	0.4					
Hexythiazox (78587-05-0)	-	0.0453	0.362	1					
Imazalil (35554-44-0)	-	0.0453	0.362	0.2					
Imidacloprid (138261-41-3)	-	0.0453	0.362	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.  
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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

<b>Pesticide</b>	<b>Synonym(s)</b>	<b>Pesticide</b>	<b>Synonym(s)</b>	<b>Pesticide</b>	<b>Synonym(s)</b>
Cyfluthrin	Baythroid	Myclobutanil	Sythane	Propiconazole	Tilt
DDVP	Dichlorvos	Naled	Dibrom	Propoxur	Baygon
Ethoprophos	Prophos	Phosmet	Imidan		

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<b>Cultivar (Strain) or Sample Description:</b> MAC 1			<b>Date Completed:</b> 08/30/2023

**HEAVY METAL PROFILE (SOP: SOP-ICP-200.6)**

<b>Analysis Date/Time:</b> 08/29/2023 1943 (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		

<u>Heavy Metal</u>	<u>Result (µg/kg)</u>	<u>LOD (µg/kg)</u>	<u>LOQ (µg/kg)</u>	<u>Action Level (µg/kg)</u>
Arsenic (As)	108	59.7	94.6	200
Cadmium (Cd)	-	59.7	94.6	200
Lead (Pb)	-	59.7	94.6	500
Mercury (Hg)	-	59.7	94.6	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:** 08/30/2023 0959      **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**

**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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