

SUMMARY OF ANALYSIS (SAMPLE ID: SA40991)

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: OR11580 Lot Number: M00065C13131025886 Production Run: 2093H20250312MUD-3	Sample Type: Primary Matrix: Flower Mass: 18g Date Collected: 05/05/2025 Date Received: 05/05/2025
Cultivar (Strain) or Sample Description: Mulberry Diesel			Date Completed: 05/07/2025

*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.

*Where provided, statements of conformity (e.g. Pass/Fail) are made in accordance with ILAC G8, Binary Statement for Simple Acceptance Rule (w=0, AL=TL). PASS: when the result is within the acceptance interval. FAIL: when the result is outside the acceptance interval

Moisture Content (%)

9.60

Water Activity (aw)

0.374 @ 24.1°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	26.2	262
CBGA	1.44	14.4
Δ9-THC	0.265	2.65
TOTAL CBD	0.000	0.000
TOTAL THC	23.2	232
TOTAL CANNABINOIDS	28.4	284

Terpenes (Top 5)	(%)	ppm
d-Limonene	0.663	6630
β-Myrcene	0.449	4490
β-Caryophyllene	0.368	3680
Linalool	0.204	2040
α-Humulene	0.181	1810
TOTAL TERPENES	2.17	21700

Contaminants	PASS/FAIL
Heavy Metals:	PASS
Microbiology:	PASS
Pesticides:	PASS



Scan the QR code to verify results.

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



CERTIFICATE OF ANALYSIS (SAMPLE ID: SA40991)

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

Analysis Date/Time: 05/06/2025 1209 **Method:** HPLC/DAD **Moisture Content (%):** 9.60
Analyst: PW **Instrument:** Agilent 1100 **Water Activity (aw):** 0.374 @ 24.1°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	0.0439	0.102	-	0.000	0.000
CBCA	ND	ND	0.136	0.318	-	0.000	0.000
CBD	ND	ND	0.310	0.723	-	0.000	0.000
CBDV	DET	DET	0.114	0.266	-	0.000	0.000
CBDVA	ND	ND	0.0497	0.116	-	0.000	0.000
CBDVA	ND	ND	0.132	0.309	-	0.000	0.000
CBG	0.252	2.52	0.201	0.469	-	2.28	2.28
CBGA	1.44	14.4	0.285	0.336	-	13.0	13.0
CBL	ND	ND	0.232	0.542	-	0.000	0.000
CBN	ND	ND	0.107	0.249	-	0.000	0.000
CBNA	ND	ND	0.115	0.268	-	0.000	0.000
Δ9-THC	0.265	2.65	0.128	0.298	-	2.40	2.40
Δ8-THC	ND	ND	0.199	0.466	-	0.000	0.000
THCA	26.2	262	0.0693	0.162	-	237	237
THCV	ND	ND	0.166	0.388	-	0.000	0.000
THCVA	0.208	2.08	0.0531	0.124	-	1.88	1.88
TOTAL	28.4	284			-	257	257
TOTAL CBC	0.000	0.000			-	0.000	0.000
TOTAL CBD	0.000	0.000			-	0.000	0.000
TOTAL CBDV	0.000	0.000			-	0.000	0.000
TOTAL CBG	1.52	15.2			-	13.7	13.7
TOTAL CBN	0.000	0.000			-	0.000	0.000
TOTAL THC	23.2	232			-	210	210
TOTAL THCV	0.180	1.80			-	1.63	1.63



SERVING MASS (g): 1.00
SERVINGS/UNIT: 1

"-" Not reported for this sample.

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.
Dry percent = Wet percent / (1-(Moisture Content/100))

Total CBC = (CBCA x 0.877) + CBC
Total CBD = (CBDV x 0.867) + 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 THCV = (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, ND - Not Detected (less than LOD)

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TERPENOID PROFILE

Analysis Date/Time: 05/06/2025 1207
Analyst: KF

Method: GC/MS
Instrument: Agilent 7890/5975

Deviations from SOP:
None

<u>Terpene</u>	<u>Result (ppm)</u>	<u>Result (%)</u>	
α-Bisabolol	101	0.0101	
Camphene	175	0.0175	
δ-3-Carene	ND	-	
β-Caryophyllene	3680	0.368	■
Caryophyllene oxide	97.9	0.00979	
p-Cymene	<LOQ	-	
Eucalyptol	ND	-	
Geraniol	70.5	0.00705	
Guaiol	ND	-	
α-Humulene	1810	0.181	■
Isopulegol	ND	-	
d-Limonene	6630	0.663	■
Linalool	2040	0.204	■
β-Myrcene	4490	0.449	■
cis-Nerolidol	ND	-	
trans-Nerolidol	738	0.0738	
α-Ocimene	<LOQ	-	
β-Ocimene	63.5	0.00635	
α-Pinene	578	0.0578	
β-Pinene	1170	0.117	■
α-Terpinene	ND	-	
γ-Terpinene	ND	-	
Terpinolene	91.3	0.00913	
TOTAL	21700	2.17	



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 (ppm): 48.1

"-" Not detected above LOD.

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Cultivar (Strain) or Sample Description: Mulberry Diesel **Date Completed:** 05/07/2025

PESTICIDES PROFILE (SOP: SOP-PEST-001)

Analysis Date/Time: 05/06/2025 1237
Analyst: KF

Method: LC/MS/MS
Instrument: Shimadzu LC-8050

Deviations from SOP:
None

Pesticide	Result (ppm)	LOD (ppm)	LOQ (ppm)	Action Level (ppm)	Pesticide	Result (ppm)	LOD (ppm)	LOQ (ppm)	Action Level (ppm)
Abamectin (71751-41-2)	-	0.0478	0.382	0.5	Kresoxim-methyl (143390-89-0)	-	0.0478	0.382	0.4
Acephate (30560-19-1)	-	0.0478	0.382	0.4	Malathion (121-75-5)	-	0.0478	0.382	0.2
Acetaminocyl (57960-19-7)	-	0.0478	0.382	2	Metalaxyl (57837-19-1)	-	0.0478	0.382	0.2
Acetamiprid (135410-20-7)	-	0.0478	0.382	0.2	Methiocarb (2032-65-7)	-	0.0478	0.382	0.2
Aldicarb (116-06-3)	-	0.0478	0.382	0.4	Methomyl (16752-77-5)	-	0.0478	0.382	0.4
Azoxystrobin (131860-33-8)	-	0.0478	0.382	0.2	Methyl parathion (298-0-0)	-	0.0478	0.382	0.2
Bifenazate (149877-41-8)	-	0.0478	0.382	0.2	MGK 264 (113-48-4)	-	0.0478	0.382	0.2
Bifenthrin (82657-04-3)	-	0.0478	0.382	0.2	Myclobutanil (88671-89-0)	-	0.0478	0.382	0.2
Boscalid (188425-85-6)	-	0.0478	0.382	0.4	Naled (300-76-5)	-	0.0478	0.382	0.5
Carbaryl (63-25-2)	-	0.0478	0.382	0.2	Oxamyl (23135-22-0)	-	0.0478	0.382	1
Carbofuran (1563-66-2)	-	0.0478	0.382	0.2	Pacllobutrazol (76738-62-0)	-	0.0478	0.382	0.4
Chlorantraniliprole (800008-45-7)	-	0.0478	0.382	0.2	Permethrins (52645-53-1)	-	0.0478	0.382	0.2
Chlorfenapyr (122453-73-0)	-	0.0478	0.382	1	Phosmet (732-11-6)	-	0.0478	0.382	0.2
Chlorpyrifos (2921-88-2)	-	0.0478	0.382	0.2	Piperonyl butoxide (51-03-6)	-	0.0478	0.382	2
Clofentezine (74115-24-5)	-	0.0478	0.382	0.2	Prallethrins (2331-36-9)	-	0.0478	0.382	0.2
Cyfluthrin (68359-37-5)	-	0.0478	0.382	1	Propiconazole (60207-90-1)	-	0.0478	0.382	0.4
Cypermethrin (52315-07-8)	-	0.0478	0.382	1	Propoxur (114-26-1)	-	0.0478	0.382	0.2
Daminozide (1596-84-5)	-	0.0478	0.382	1	Pyrethrins (8003-34-7)	-	0.0478	0.382	1
DDVP (62-73-7)	-	0.0478	0.382	0.1	Pyridaben (96489-71-3)	-	0.0478	0.382	0.2
Diazinon (333-41-5)	-	0.0478	0.382	0.2	Spinosad (168316-95-8)	-	0.0478	0.382	0.2
Dimethoate (60-51-5)	-	0.0478	0.382	0.2	Spiromesifen (283594-90-1)	-	0.0478	0.382	0.2
Ethoprophos (13194-48-4)	-	0.0478	0.382	0.2	Spirotetramat (203313-25-1)	-	0.0478	0.382	0.2
Etofenprox (80844-07-1)	-	0.0478	0.382	0.4	Spiroxamine (118134-30-8)	-	0.0478	0.382	0.4
Etozazole (153233-91-1)	-	0.0478	0.382	0.2	Tebuconazole (80443-41-0)	-	0.0478	0.382	0.4
Fenoxycarb (72490-01-8)	-	0.0478	0.382	0.2	Thiacloprid (111988-49-9)	-	0.0478	0.382	0.2
(E)-Fenpyroximate (134098-61-6)	-	0.0478	0.382	0.4	Thiamethoxam (153719-23-4)	-	0.0478	0.382	0.2
Fipronil (120068-37-3)	-	0.0478	0.382	0.4	Trifloxystrobin (141517-21-7)	-	0.0478	0.382	0.2
Fonicamid (158062-67-0)	-	0.0478	0.382	1					
Fludioxinil (131341-86-1)	-	0.0478	0.382	0.4					
Hexythiazox (78587-05-0)	-	0.0478	0.382	1					
Imazalil (35554-44-0)	-	0.0478	0.382	0.2					
Imidacloprid (138261-41-3)	-	0.0478	0.382	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: 05/06/2025 1231 **Method:** ICP/MS **Deviations from SOP:** None
Analyst: KF **Instrument:** Agilent 7700x

<u>Heavy Metal</u>	<u>Result (ppb)</u>	<u>LOD (ppb)</u>	<u>LOQ (ppb)</u>	<u>Action Level (ppb)</u>
Arsenic (As)	ND	58.8	93.2	200
Cadmium (Cd)	ND	58.8	93.2	200
Lead (Pb)	ND	58.8	93.2	500
Mercury (Hg)	ND	58.8	93.2	100



Abbreviations: ICP - Inductively-Coupled Plasma, MS - Mass Spectrometry, 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

"ND" not detected above LOD

Reporting limit is 1/2 the action level of each analyte.

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: 05/07/2025 0545 **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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