

**SUMMARY OF ANALYSIS (SAMPLE ID: SA34033)**

<b>Testing Location:</b>	<b>Customer ID:</b> 2161	<b>Order ID:</b> OR10246	<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	M00065C13131294548	<b>Mass:</b> 19g
Greenbrier, AR 72058	Fort Smith, AR 72903	<b>Production Run:</b>	<b>Date Collected:</b> 01/04/2023
License: ADH 113	License: 00065C	3017H20221103RTZ-2	<b>Date Received:</b> 01/04/2023
<b>Cultivar (Strain) or Sample Description:</b> Runtz			<b>Date Completed:</b> 01/11/2023

\*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 (%)**

12.9

**Water Activity (aw)**

0.483 @ 24.7°C

**PASS/FAIL**

**PASS**

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

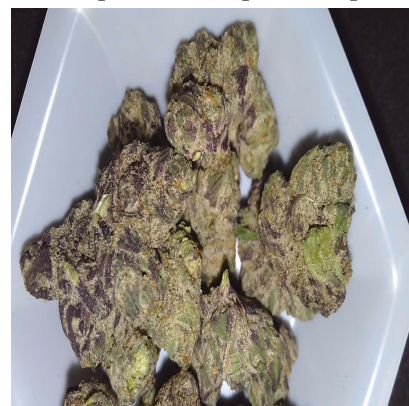
Moisture content levels less than 15% are recommended but the sample does not fail. Water activity levels must be less than 0.65aw.

<b>Cannabinoids (Top 3)</b>	<b>(%)</b>	<b>mg/g</b>
THCA	17.9	179
Δ9-THC	1.16	11.6
CBD	-	-
TOTAL CBD	-	-
TOTAL THC	16.9	169
TOTAL CANNABINOIDS	19.1	191

<b>Terpenes (Top 5)</b>	<b>(%)</b>	<b>µg/g</b>
Linalool	0.217	2170
β-Caryophyllene	0.164	1640
Caryophyllene oxide	0.134	1340
β-Myrcene	0.0991	991
d-Limonene	0.0884	884
TOTAL TERPENES	0.755	7550

<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



**CERTIFICATE OF ANALYSIS (SAMPLE ID: SA34033)**

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License: ADH 113	License: 00065C	3017H20221103RTZ-2	<b>Date Received:</b> 01/04/2023
<b>Cultivar (Strain) or Sample Description:</b> Runtz			<b>Date Completed:</b> 01/11/2023

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

**Analysis Date/Time:** 01/06/2023 1655

**Method:** HPLC/DAD

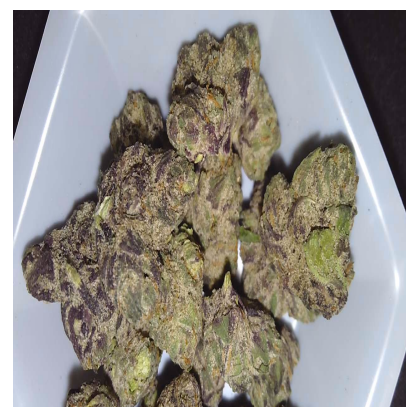
**Moisture Content (%):** 12.9

**Analyst:** PW

**Instrument:** Agilent 1100

**Water Activity (aw):** 0.483 @ 24.67°C

<b>Cannabinoid</b>	<b>Result (%)</b>	<b>UM (+/-%)</b>	<b>Result (mg/g)</b>	<b>LOQ (mg/g)</b>	<b>Result (mg/mL)</b>	<b>Per Serving (mg)</b>	<b>Per Unit (mg)</b>
CBC	-	-	-	1.02	-	-	-
CBCA	-	-	-	3.18	-	-	-
CBD	-	-	-	7.22	-	-	-
CBDA	-	-	-	2.66	-	-	-
CBDV	-	-	-	1.16	-	-	-
CBDVA	-	-	-	3.09	-	-	-
CBG	-	-	-	4.69	-	-	-
CBGA	-	-	-	3.36	-	-	-
CBL	-	-	-	5.42	-	-	-
CBN	-	-	-	2.49	-	-	-
CBNA	-	-	-	2.68	-	-	-
Δ9-THC	1.16	0.104	11.6	2.98	-	11.6	11.6
Δ8-THC	-	-	-	4.65	-	-	-
THCA	17.9	1.61	179	1.62	-	179	179
THCV	-	-	-	3.87	-	-	-
THCVA	-	-	-	1.23	-	-	-
<b>TOTAL</b>	<b>19.1</b>	<b>1.72</b>	<b>191</b>		<b>-</b>	<b>191</b>	<b>191</b>
<b>TOTAL CBC</b>	-	-	-		-	-	-
<b>TOTAL CBD</b>	-	-	-		-	-	-
<b>TOTAL CBDV</b>	-	-	-		-	-	-
<b>TOTAL CBG</b>	-	-	-		-	-	-
<b>TOTAL CBN</b>	-	-	-		-	-	-
<b>TOTAL THC</b>	<b>16.9</b>	<b>1.52</b>	<b>169</b>		<b>-</b>	<b>169</b>	<b>169</b>
<b>TOTAL THCv</b>	-	-	-		-	-	-



**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 THCv = (THCVA x 0.867) + THCv

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, Ph.D.  
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**TERPENOID PROFILE**

**Analysis Date/Time:** 01/10/2023 1228

**Analyst:** KF

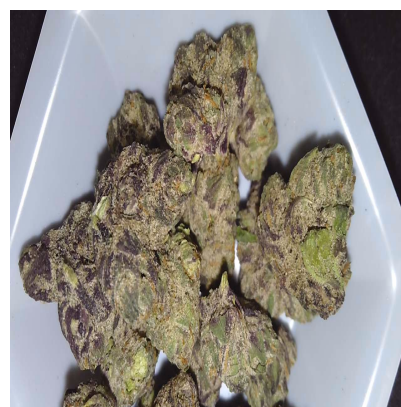
**Method:** GC/MS

**Instrument:** Agilent 7890/5975

**Deviations from SOP:**

None

<b>Terpene</b>	<b>Result (µg/g)</b>	<b>Result (%)</b>	
α-Bisabolol	-	-	
Camphene	-	-	
δ-3-Carene	-	-	
β-Caryophyllene	1640	0.164	
Caryophyllene oxide	1340	0.134	
p-Cymene	-	-	
Eucalyptol	-	-	
Geraniol	-	-	
Guaiol	-	-	
α-Humulene	96.4	0.00964	
Isopulegol	-	-	
d-Limonene	884	0.0884	
Linalool	2170	0.217	
β-Myrcene	991	0.0991	
cis-Nerolidol	-	-	
trans-Nerolidol	426	0.0426	
α-Ocimene	-	-	
β-Ocimene	-	-	
α-Pinene	-	-	
β-Pinene	-	-	
α-Terpinene	-	-	
γ-Terpinene	-	-	
Terpinolene	-	-	
<b>TOTAL</b>	<b>7550</b>	<b>0.755</b>	



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

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"-" Not detected above RL.

**Reporting Limit (µg/g): 43.4**

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Kyle W. Felling, Ph.D.  
Laboratory Director



**CERTIFICATE OF ANALYSIS (SAMPLE ID: SA34033)**

<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> OR10246 <b>Lot Number:</b> M00065C13131294548 <b>Production Run:</b> 3017H20221103RTZ-2	<b>Sample Type:</b> Primary <b>Matrix:</b> Flower <b>Mass:</b> 19g <b>Date Collected:</b> 01/04/2023 <b>Date Received:</b> 01/04/2023
<b>Cultivar (Strain) or Sample Description:</b> Runtz			<b>Date Completed:</b> 01/11/2023

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

**Analysis Date/Time:** 01/10/2023 2053

**Analyst:** KF

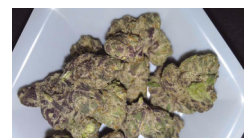
**Method:** LC/MS/MS

**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)	-	0.0434	0.347	0.5	Kresoxim-methyl (143390-89-0)	-	0.0434	0.347	0.4
Acephate (30560-19-1)	-	0.0434	0.347	0.4	Malathion (121-75-5)	-	0.0434	0.347	0.2
Acetaminophen (57960-19-7)	-	0.0434	0.347	2	Metalaxyl (57837-19-1)	-	0.0434	0.347	0.2
Acetamiprid (135410-20-7)	-	0.0434	0.347	0.2	Methiocarb (2032-65-7)	-	0.0434	0.347	0.2
Aldicarb (116-06-3)	-	0.0434	0.347	0.4	Methomyl (16752-77-5)	-	0.0434	0.347	0.4
Azoxystrobin (131860-33-8)	-	0.0434	0.347	0.2	Methyl parathion (298-0-0)	-	0.0434	0.347	0.2
Bifenazate (149877-41-8)	-	0.0434	0.347	0.2	MGK 264 (113-48-4)	-	0.0434	0.347	0.2
Bifenthrin (82657-04-3)	-	0.0434	0.347	0.2	Myclobutanil (88671-89-0)	-	0.0434	0.347	0.2
Boscalid (188425-85-6)	-	0.0434	0.347	0.4	Naled (300-76-5)	-	0.0434	0.347	0.5
Carbaryl (63-25-2)	-	0.0434	0.347	0.2	Oxamyl (23135-22-0)	-	0.0434	0.347	1
Carbofuran (1563-66-2)	-	0.0434	0.347	0.2	Paclobutrazol (76738-62-0)	-	0.0434	0.347	0.4
Chlorantraniliprole (800008-45-7)	-	0.0434	0.347	0.2	Permethrins (52645-53-1)	-	0.0434	0.347	0.2
Chlorfenapyr (122453-73-0)	-	0.0434	0.347	1	Phosmet (732-11-6)	-	0.0434	0.347	0.2
Chlorpyrifos (2921-88-2)	-	0.0434	0.347	0.2	Piperonyl butoxide (51-03-6)	-	0.0434	0.347	2
Clofentezine (74115-24-5)	-	0.0434	0.347	0.2	Prallethrin (2331-36-9)	-	0.0434	0.347	0.2
Cyfluthrin (68359-37-5)	-	0.0434	0.347	1	Propiconazole (60207-90-1)	-	0.0434	0.347	0.4
Cypermethrin (52315-07-8)	-	0.0434	0.347	1	Propoxur (114-26-1)	-	0.0434	0.347	0.2
Daminozide (1596-84-5)	-	0.0434	0.347	1	Pyrethrins (8003-34-7)	-	0.0434	0.347	1
DDVP (62-73-7)	-	0.0434	0.347	0.1	Pyridaben (96489-71-3)	-	0.0434	0.347	0.2
Diazinon (333-41-5)	-	0.0434	0.347	0.2	Spinosad (168316-95-8)	-	0.0434	0.347	0.2
Dimethoate (60-51-5)	-	0.0434	0.347	0.2	Spiromesifen (283594-90-1)	-	0.0434	0.347	0.2
Ethoprophos (13194-48-4)	-	0.0434	0.347	0.2	Spirotetramat (203313-25-1)	-	0.0434	0.347	0.2
Etofenprox (80844-07-1)	-	0.0434	0.347	0.4	Spiroxamine (118134-30-8)	-	0.0434	0.347	0.4
Etazoxole (153233-91-1)	-	0.0434	0.347	0.2	Tebuconazole (80443-41-0)	-	0.0434	0.347	0.4
Fenoxycarb (72490-01-8)	-	0.0434	0.347	0.2	Thiacloprid (111988-49-9)	-	0.0434	0.347	0.2
(E)-Fenpyroximate (134098-61-6)	-	0.0434	0.347	0.4	Thiamethoxam (153719-23-4)	-	0.0434	0.347	0.2
Fipronil (120068-37-3)	-	0.0434	0.347	0.4	Trifloxystrobin (141517-21-7)	-	0.0434	0.347	0.2
Flonicamid (158062-67-0)	-	0.0434	0.347	1					
Fludioxinil (131341-86-1)	-	0.0434	0.347	0.4					
Hexythiazox (78587-05-0)	-	0.0434	0.347	1					
Imazalil (35554-44-0)	-	0.0434	0.347	0.2					
Imidacloprid (138261-41-3)	-	0.0434	0.347	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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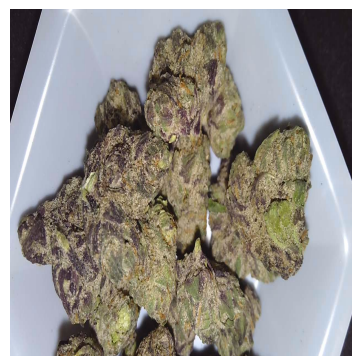
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<b>Cultivar (Strain) or Sample Description:</b> Runtz			<b>Date Completed:</b> 01/11/2023

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

<b>Analysis Date/Time:</b> 01/07/2023 0959 (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		

<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)	-	56.3	89.1	200
Cadmium (Cd)	-	56.3	89.1	200
Lead (Pb)	-	56.3	89.1	500
Mercury (Hg)	-	56.3	89.1	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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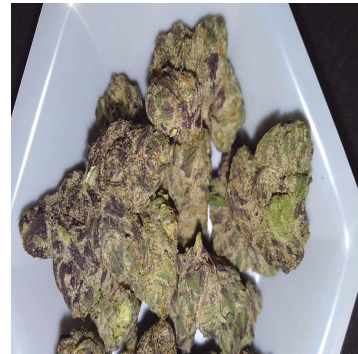
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License: ADA 05_H273	License: 00065C	3017H20221103RTZ-2	<b>Date Received:</b> 01/04/2023
<b>Cultivar (Strain) or Sample Description:</b> Runtz			<b>Date Completed:</b> 01/11/2023

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

<b>Analysis Date/Time:</b> 1/7/2022 1230	<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.  
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