

SUMMARY OF ANALYSIS (SAMPLE ID: SA38316)

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: OR11092 Lot Number: M00065C13138360756 Production Run: 4067H20240613KLP-5	Sample Type: Primary Matrix: Flower Mass: 13g Date Collected: 07/08/2024 Date Received: 07/08/2024 Date Completed: 07/10/2024
Cultivar (Strain) or Sample Description: Key Lime Pie			

*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 (%)

11.9

Water Activity (aw)

0.411 @ 23.8°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	27.8	278
CBGA	1.12	11.2
Δ9-THC	0.638	6.38
TOTAL CBD	-	-
TOTAL THC	25.1	251
TOTAL CANNABINOIDS	30.4	304

Terpenes (Top 5)	(%)	µg/g
β-Myrcene	0.709	7090
d-Limonene	0.437	4370
β-Caryophyllene	0.405	4050
Linalool	0.299	2990
α-Humulene	0.193	1930
TOTAL TERPENES	2.36	23600

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

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: 07/09/2024 1408 **Method:** HPLC/DAD **Moisture Content (%):** 11.9
Analyst: PW **Instrument:** Agilent 1100 **Water Activity (aw):** 0.411 @ 23.8°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	0.0410	0.0957	-	-	-
CBCA	0.577	5.77	0.127	0.297	-	5.08	5.08
CBD	ND	ND	0.289	0.676	-	-	-
CBDA	ND	ND	0.107	0.249	-	-	-
CBDV	ND	ND	0.0464	0.108	-	-	-
CBDVA	ND	ND	0.124	0.289	-	-	-
CBG	0.139	1.39	0.188	0.439	-	1.23	1.23
CBGA	1.12	11.2	0.266	0.314	-	9.84	9.84
CBL	ND	ND	0.217	0.507	-	-	-
CBN	ND	ND	0.0997	0.233	-	-	-
CBNA	ND	ND	0.108	0.251	-	-	-
Δ9-THC	0.638	6.38	0.119	0.279	-	5.63	5.63
Δ8-THC	ND	ND	0.186	0.435	-	-	-
THCA	27.8	278	0.0648	0.152	-	245	245
THCV	ND	ND	0.155	0.362	-	-	-
THCVA	0.118	1.18	0.0497	0.116	-	1.04	1.04
TOTAL	30.4	304				268	268
TOTAL CBC	0.506	5.06				4.45	4.45
TOTAL CBD	-	-				-	-
TOTAL CBDV	-	-				-	-
TOTAL CBG	1.12	11.2				9.86	9.86
TOTAL CBN	-	-				-	-
TOTAL THC	25.1	251				221	221
TOTAL THC V	0.103	1.03				0.903	0.903



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 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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Cultivar (Strain) or Sample Description: Key Lime Pie			Date Completed: 07/10/2024

TERPENOID PROFILE

Analysis Date/Time: 07/09/2024 1522
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	582	0.0582	█
Camphene	194	0.0194	█
δ-3-Carene	ND	-	
β-Caryophyllene	4050	0.405	█
Caryophyllene oxide	100	0.0100	█
p-Cymene	ND	-	
Eucalyptol	ND	-	
Geraniol	186	0.0186	█
Guaiol	ND	-	
α-Humulene	1930	0.193	█
Isopulegol	ND	-	
d-Limonene	4370	0.437	█
Linalool	2990	0.299	█
β-Myrcene	7090	0.709	█
cis-Nerolidol	ND	-	
trans-Nerolidol	ND	-	
α-Ocimene	51.8	0.00518	█
β-Ocimene	108	0.0108	█
α-Pinene	617	0.0617	█
β-Pinene	1250	0.125	█
α-Terpinene	ND	-	
γ-Terpinene	ND	-	
Terpinolene	55.1	0.00551	█
TOTAL	23600	2.36	



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): 45.0

"-" Not detected above LOD.

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PESTICIDES PROFILE (SOP: SOP-PEST-001)

Analysis Date/Time: 07/09/2024 1348
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)	-	0.0447	0.358	0.5	Kresoxim-methyl (143390-89-0)	-	0.0447	0.358	0.4
Acephate (30560-19-1)	-	0.0447	0.358	0.4	Malathion (121-75-5)	-	0.0447	0.358	0.2
Acetamiprid (135410-20-7)	-	0.0447	0.358	0.2	Metalaxyl (57837-19-1)	-	0.0447	0.358	0.2
Aldicarb (116-06-3)	-	0.0447	0.358	0.4	Methiocarb (2032-65-7)	-	0.0447	0.358	0.2
Azoxystrobin (131860-33-8)	-	0.0447	0.358	0.2	Methomyl (16752-77-5)	-	0.0447	0.358	0.4
Bifenazate (149877-41-8)	-	0.0447	0.358	0.2	Methyl parathion (298-0-0)	-	0.0447	0.358	0.2
Bifenthrin (82657-04-3)	-	0.0447	0.358	0.2	MGK 264 (113-48-4)	-	0.0447	0.358	0.2
Boscalid (188425-85-6)	-	0.0447	0.358	0.4	Myclobutanil (88671-89-0)	-	0.0447	0.358	0.2
Carbaryl (63-25-2)	-	0.0447	0.358	0.2	Naled (300-76-5)	-	0.0447	0.358	0.5
Carbofuran (1563-66-2)	-	0.0447	0.358	0.2	Oxamyl (23135-22-0)	-	0.0447	0.358	1
Chlorantraniliprole (800008-45-7)	-	0.0447	0.358	0.2	Pacllobutrazol (76738-62-0)	-	0.0447	0.358	0.4
Chlorfenapyr (122453-73-0)	-	0.0447	0.358	1	Permethrins (52645-53-1)	-	0.0447	0.358	0.2
Chlorpyrifos (2921-88-2)	-	0.0447	0.358	0.2	Phosmet (732-11-6)	-	0.0447	0.358	0.2
Clofentezine (74115-24-5)	-	0.0447	0.358	0.2	Piperonyl butoxide (51-03-6)	-	0.0447	0.358	2
Cyfluthrin (68359-37-5)	-	0.0447	0.358	1	Prallethrins (2331-36-9)	-	0.0447	0.358	0.2
Cypermethrin (52315-07-8)	-	0.0447	0.358	1	Propiconazole (60207-90-1)	-	0.0447	0.358	0.4
Daminozide (1596-84-5)	-	0.0447	0.358	1	Propoxur (114-26-1)	-	0.0447	0.358	0.2
DDVP (62-73-7)	-	0.0447	0.358	0.1	Pyrethrins (8003-34-7)	-	0.0447	0.358	1
Diazinon (333-41-5)	-	0.0447	0.358	0.2	Pyridaben (96489-71-3)	-	0.0447	0.358	0.2
Dimethoate (60-51-5)	-	0.0447	0.358	0.2	Spinosad (168316-95-8)	-	0.0447	0.358	0.2
Ethoprophos (13194-48-4)	-	0.0447	0.358	0.2	Spiromesifen (283594-90-1)	-	0.0447	0.358	0.2
Etofenprox (80844-07-1)	-	0.0447	0.358	0.4	Spirotetramat (203313-25-1)	-	0.0447	0.358	0.2
Etoxazole (153233-91-1)	-	0.0447	0.358	0.2	Spiroxamine (118134-30-8)	-	0.0447	0.358	0.4
Fenoxycarb (72490-01-8)	-	0.0447	0.358	0.2	Tebuconazole (80443-41-0)	-	0.0447	0.358	0.4
(E)-Fenpyroximate (134098-61-6)	-	0.0447	0.358	0.4	Thiacloprid (111988-49-9)	-	0.0447	0.358	0.2
Fipronil (120068-37-3)	-	0.0447	0.358	0.4	Thiamethoxam (153719-23-4)	-	0.0447	0.358	0.2
Fonicamid (158062-67-0)	-	0.0447	0.358	1	Trifloxystrobin (141517-21-7)	-	0.0447	0.358	0.2
Fludioxinil (131341-86-1)	-	0.0447	0.358	0.4					
Hexythiazox (78587-05-0)	-	0.0447	0.358	1					
Imazalil (35554-44-0)	-	0.0447	0.358	0.2					
Imidacloprid (138261-41-3)	-	0.0447	0.358	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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HEAVY METAL PROFILE (SOP: SOP-ICP-200.6)

Analysis Date/Time: 07/09/2024 1514 **Method:** ICP/MS **Deviations from SOP:** None
Analyst: KF **Instrument:** Agilent 7500ce

<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)	-	59.2	93.8	200
Cadmium (Cd)	-	59.2	93.8	200
Lead (Pb)	-	59.2	93.8	500
Mercury (Hg)	-	59.2	93.8	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: 07/09/2024 1424 **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

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