

SUMMARY OF ANALYSIS (SAMPLE ID: SA39037)

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: OR11226 Lot Number: M00065C13131984334 Production Run: 5075H20240830KLP-1	Sample Type: Primary Matrix: Flower Mass: 17g Date Collected: 10/04/2024 Date Received: 10/05/2024 Date Completed: 10/08/2024
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 (%)

9.80

Water Activity (aw)

0.433 @ 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.

Cannabinoids (Top 3)	(%)	mg/g
THCA	33.8	338
CBGA	1.97	19.7
Δ9-THC	0.862	8.62
TOTAL CBD	-	-
TOTAL THC	30.5	305
TOTAL CANNABINOIDS	37.6	376

Terpenes (Top 5)	(%)	µg/g
β-Myrcene	1.35	13500
β-Caryophyllene	0.826	8260
Linalool	0.783	7830
d-Limonene	0.661	6610
α-Humulene	0.384	3840
TOTAL TERPENES	4.61	46100

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: 10/07/2024 1636 **Method:** HPLC/DAD **Moisture Content (%):** 9.80
Analyst: PW **Instrument:** Agilent 1100 **Water Activity (aw):** 0.433 @ 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	0.0426	0.0994	-	-	-
CBCA	0.687	6.87	0.132	0.309	-	6.19	6.19
CBD	ND	ND	0.300	0.701	-	-	-
CBDa	ND	ND	0.111	0.258	-	-	-
CBDV	ND	ND	0.0482	0.112	-	-	-
CBDVA	ND	ND	0.128	0.300	-	-	-
CBG	0.123	1.23	0.195	0.455	-	1.11	1.11
CBGA	1.97	19.7	0.276	0.326	-	17.8	17.8
CBL	ND	ND	0.225	0.526	-	-	-
CBN	ND	ND	0.103	0.242	-	-	-
CBNA	ND	ND	0.112	0.260	-	-	-
Δ9-THC	0.862	8.62	0.124	0.289	-	7.77	7.77
Δ8-THC	ND	ND	0.193	0.452	-	-	-
THCA	33.8	338	0.0672	0.157	-	305	305
THCV	ND	ND	0.161	0.376	-	-	-
THCVA	0.174	1.74	0.0515	0.120	-	1.57	1.57
TOTAL	37.6	376				339	339
TOTAL CBC	0.602	6.02				5.43	5.43
TOTAL CBD	-	-				-	-
TOTAL CBDV	-	-				-	-
TOTAL CBG	1.86	18.6				16.7	16.7
TOTAL CBN	-	-				-	-
TOTAL THC	30.5	305				275	275
TOTAL THCv	0.151	1.51				1.36	1.36



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

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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Percentage results are reported by mass.

mg/g results are reported as mass component per mass material.

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Laboratory Director



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Cultivar (Strain) or Sample Description: Key Lime Pie			Date Completed: 10/08/2024

TERPENOID PROFILE

Analysis Date/Time: 10/07/2024 2035
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	1110	0.111	█
Camphene	430	0.0430	█
δ-3-Carene	ND	-	
β-Caryophyllene	8260	0.826	█
Caryophyllene oxide	236	0.0236	█
p-Cymene	ND	-	
Eucalyptol	ND	-	
Geraniol	286	0.0286	█
Guaiol	ND	-	
α-Humulene	3840	0.384	█
Isopulegol	119	0.0119	█
d-Limonene	6610	0.661	█
Linalool	7830	0.783	█
β-Myrcene	13500	1.35	█
cis-Nerolidol	ND	-	
trans-Nerolidol	ND	-	
α-Ocimene	ND	-	
β-Ocimene	ND	-	
α-Pinene	1440	0.144	█
β-Pinene	2320	0.232	█
α-Terpinene	ND	-	
γ-Terpinene	ND	-	
Terpinolene	162	0.0162	█
TOTAL	46100	4.61	



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): 46.7

"-" Not detected above LOD.

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PESTICIDES PROFILE (SOP: SOP-PEST-001)

Analysis Date/Time: 10/07/2024 1722
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)	-	0.0463	0.371	0.5	Kresoxim-methyl (143390-89-0)	-	0.0463	0.371	0.4
Acephate (30560-19-1)	-	0.0463	0.371	0.4	Malathion (121-75-5)	-	0.0463	0.371	0.2
Acetaminocyl (57960-19-7)	-	0.0463	0.371	2	Metalaxyl (57837-19-1)	-	0.0463	0.371	0.2
Acetamiprid (135410-20-7)	-	0.0463	0.371	0.2	Methiocarb (2032-65-7)	-	0.0463	0.371	0.2
Aldicarb (116-06-3)	-	0.0463	0.371	0.4	Methomyl (16752-77-5)	-	0.0463	0.371	0.4
Azoxystrobin (131860-33-8)	-	0.0463	0.371	0.2	Methyl parathion (298-0-0)	-	0.0463	0.371	0.2
Bifenazate (149877-41-8)	-	0.0463	0.371	0.2	MGK 264 (113-48-4)	-	0.0463	0.371	0.2
Bifenthrin (82657-04-3)	-	0.0463	0.371	0.2	Myclobutanil (88671-89-0)	-	0.0463	0.371	0.2
Boscalid (188425-85-6)	-	0.0463	0.371	0.4	Naled (300-76-5)	-	0.0463	0.371	0.5
Carbaryl (63-25-2)	-	0.0463	0.371	0.2	Oxamyl (23135-22-0)	-	0.0463	0.371	1
Carbofuran (1563-66-2)	-	0.0463	0.371	0.2	Paclitaxel (76738-62-0)	-	0.0463	0.371	0.4
Chlorantraniliprole (800008-45-7)	-	0.0463	0.371	0.2	Permethrins (52645-53-1)	-	0.0463	0.371	0.2
Chlorfenapyr (122453-73-0)	-	0.0463	0.371	1	Phosmet (732-11-6)	-	0.0463	0.371	0.2
Chlorpyrifos (2921-88-2)	-	0.0463	0.371	0.2	Piperonyl butoxide (51-03-6)	-	0.0463	0.371	2
Clofentezine (74115-24-5)	-	0.0463	0.371	0.2	Prallethrins (2331-36-9)	-	0.0463	0.371	0.2
Cyfluthrin (68359-37-5)	-	0.0463	0.371	1	Propiconazole (60207-90-1)	-	0.0463	0.371	0.4
Cypermethrin (52315-07-8)	-	0.0463	0.371	1	Propoxur (114-26-1)	-	0.0463	0.371	0.2
Daminozide (1596-84-5)	-	0.0463	0.371	1	Pyrethrins (8003-34-7)	-	0.0463	0.371	1
DDVP (62-73-7)	-	0.0463	0.371	0.1	Pyridaben (96489-71-3)	-	0.0463	0.371	0.2
Diazinon (333-41-5)	-	0.0463	0.371	0.2	Spinosad (168316-95-8)	-	0.0463	0.371	0.2
Dimethoate (60-51-5)	-	0.0463	0.371	0.2	Spiromesifen (283594-90-1)	-	0.0463	0.371	0.2
Ethoprophos (13194-48-4)	-	0.0463	0.371	0.2	Spirotetramat (203313-25-1)	-	0.0463	0.371	0.2
Etofenprox (80844-07-1)	-	0.0463	0.371	0.4	Spiroxamine (118134-30-8)	-	0.0463	0.371	0.4
Etoazole (153233-91-1)	-	0.0463	0.371	0.2	Tebuconazole (80443-41-0)	-	0.0463	0.371	0.4
Fenoxycarb (72490-01-8)	-	0.0463	0.371	0.2	Thiacloprid (111988-49-9)	-	0.0463	0.371	0.2
(E)-Fenpyroximate (134098-61-6)	-	0.0463	0.371	0.4	Thiamethoxam (153719-23-4)	-	0.0463	0.371	0.2
Fipronil (120068-37-3)	-	0.0463	0.371	0.4	Trifloxystrobin (141517-21-7)	-	0.0463	0.371	0.2
Fonicamid (158062-67-0)	-	0.0463	0.371	1					
Fludioxinil (131341-86-1)	-	0.0463	0.371	0.4					
Hexythiazox (78587-05-0)	-	0.0463	0.371	1					
Imazalil (35554-44-0)	-	0.0463	0.371	0.2					
Imidacloprid (138261-41-3)	-	0.0463	0.371	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: 10/07/2024 1948	Method: ICP/MS Instrument: Agilent 7500ce	Deviations from SOP: None
Analyst: 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)	-	58.7	93.0	200
Cadmium (Cd)	-	58.7	93.0	200
Lead (Pb)	-	58.7	93.0	500
Mercury (Hg)	-	58.7	93.0	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

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"-" not detected above LOD

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MICROBIOLOGICAL PROFILE (SOP: SOP-Micro-001)

Analysis Date/Time: 10/06/2024 1347 **Method:** Hardy Diagnostics CompactDry **Deviations from SOP:**
Analyst: PW **Instrument:** Thermo Incubator None

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