Steep Hill Hawaii
1150 S. KING STREET, HONOLULU, HI 96814
LICENSE #: 92630

PJLA Testing
Accreditation # 92630

CERTIFICATE OF ANALYSIS

Sample Name: 300 mg Pain Rub
Steep Hill ID: HI73216
Batch ID: 8222019-01D
State ID:
Sample Type: Topical
Date Received: 9/12/2019
Date Reported: 9/15/2019

Customer: Hawaii Cannabis Care

OVERALL BATCH SUMMARY: PASS

Residual Pesticides	Microbial Impurities	Mycotoxins	Heavy Metals	Moisture	Residual Solvents	Foreign Material
Pass	Pass	Pass	Pass	NT	NT	NT

Cannabinoid Results – Standard Potency **9/15/2019**

Standard potency analysis utilizing Ultra High Performance Liquid Chromatography (UHPLC; HI-SOP-024)

Analyte	%	mg/g	LOD mg/g	LOQ mg/g
CBD	0.48	4.8	0.0074	0.0078
CBDA	ND	ND	0.0074	0.0133
CBG	ND	ND	0.0074	0.0085
CBN	ND	ND	0.0074	0.0074
THC	ND	ND	0.0074	0.0074
THCA	ND	ND	0.0074	0.0170
Total	0.48	4.8		

Total THC	Total CBD
Not Detected	0.48 %
Not Detected	4.8 mg/g

Total THC = [THCA x 0.877] + [THC]
Total CBD = [CBDA x 0.877] + [CBD]

Cannabinoid Results – Extended Cannabinoids NT

Extended cannabinoid analysis utilizing Ultra High Performance Liquid Chromatography (UHPLC; HI-SOP-024)

Analyte	%	mg/g	LOD mg/g	LOQ mg/g
CBC	NT	NT	NT	NT
CBD	NT	NT	NT	NT
CBDA	NT	NT	NT	NT
CBDV	NT	NT	NT	NT
CBDVA	NT	NT	NT	NT
CBG	NT	NT	NT	NT
CBN	NT	NT	NT	NT
THC	NT	NT	NT	NT
Δ8-THC	NT	NT	NT	NT
THCA	NT	NT	NT	NT
THCV	NT	NT	NT	NT
THCVA	NT	NT	NT	NT
Total	NT	NT	NT	NT

Nelson Lazaga, Ph.D
Laboratory Director
Date: 9/16/2019

CERTIFICATE #: HI73216
REVISION #: HI73216.1

Steep Hill Hawaii
1150 S. KING STREET, HONOLULU, HI 96814
LICENSE #: 92630

PJLA Testing
Accreditation # 92630

CERTIFICATE OF ANALYSIS

Residual Pesticides Results **Pass** **9/15/2019**

Residual pesticide analysis utilizing Liquid Chromatography – Mass Spectrometry (LC-MSMS; HI-SOP-025) - **Limit units: ug/g = ppm**

Analyte	Pass/Fail	µg/g	Limit	LOD µg/g	LOQ µg/g	Analyte	Pass/Fail	µg/g	Limit	LOD µg/g	LOQ µg/g
Abamectin B1a	Pass	ND	1	0.188	0.57	Hexythiazox	Pass	ND	1	0.164	0.50
Acephate	Pass	ND	1	0.054	0.163	Imazalil	Pass	ND	1	0.037	0.111
Acequinocyl	Pass	ND	1	0.0027	0.74	Imidacloprid	Pass	ND	1	0.053	0.161
Acetamiprid	Pass	ND	1	0.089	0.27	Kresoxim-methyl	Pass	ND	1	0.050	0.152
Aldicarb	Pass	ND	1	0.029	0.089	Malathion	Pass	ND	1	0.046	0.139
Azoxystrobin	Pass	ND	1	0.068	0.21	Metalaxyl	Pass	ND	1	0.044	0.133
Bifenazate	Pass	ND	1	0.079	0.24	Methiocarb	Pass	ND	1	0.075	0.23
Bifenthrin	Pass	ND	1	0.155	0.47	Methomyl	Pass	ND	1	0.029	0.089
Boscalid	Pass	ND	1	0.161	0.49	Methyl Parathion	Pass	ND	1	0.111	0.34
Carbaryl	Pass	ND	1	0.031	0.095	MGK-264	Pass	ND	1	0.146	0.44
Carbofuran	Pass	ND	1	0.022	0.066	Myclobutanil	Pass	ND	1	0.045	0.137
Chlorantraniliprole	Pass	ND	1	0.067	0.20	Naled	Pass	ND	1	0.042	0.126
Chlorfenapyr	Pass	ND	1	0.029	0.087	Oxamyl	Pass	ND	1	0.029	0.088
Chlorpyrifos	Pass	ND	1	0.066	0.200	Paclobutrazol	Pass	ND	1	0.029	0.089
Clofentezine	Pass	ND	1	0.125	0.38	Permethrin	Pass	ND	1	0.20	0.61
Cyfluthrin	Pass	ND	1	0.31	0.74	Phosmet	Pass	ND	1	0.104	0.31
Cypermethrin	Pass	ND	1	0.198	0.60	Piperonyl Butoxide	Pass	ND	1	0.034	0.103
Diazinon	Pass	ND	1	0.026	0.079	Prallethrin	Pass	ND	1	0.062	0.187
Dichlorvos	Pass	ND	1	0.133	0.40	Propiconazole	Pass	ND	1	0.063	0.191
Dimethoate	Pass	ND	1	0.037	0.111	Propoxur	Pass	ND	1	0.023	0.070
Ethoprophos	Pass	ND	1	0.070	0.21	Pyrethrins	Pass	ND	1	0.029	0.089
Etofenprox	Pass	ND	1	0.180	0.55	Pyridaben	Pass	ND	1	0.157	0.47
Etoxazole	Pass	ND	1	0.037	0.112	Spinosad	Pass	ND	1	0.025	0.075
Fenpyroximate	Pass	ND	1	0.00109	0.0033	Spiromesifen	Pass	ND	1	0.047	0.141
Fipronil	Pass	ND	1	0.084	0.25	Spirotetramat	Pass	ND	1	0.040	0.120
Flonicamid	Pass	ND	1	0.072	0.22	Tebuconazole	Pass	ND	1	0.060	0.182
Fludioxonil	Pass	ND	1	0.046	0.140	Thiacloprid	Pass	ND	1	0.046	0.139

Mycotoxin Results **Pass** **9/15/2019**

Mycotoxin analysis utilizing Liquid Chromatography – Mass Spectrometry (LC-MS; HI-SOP-025) - **Limit units: µg/kg = ppb**

Analyte	Pass/Fail	µg/kg	Limit	LOD µg/kg	LOQ µg/kg
Aflatoxin B1		ND		3.8	11.6
Aflatoxin B2		ND		3.5	10.7
Aflatoxin G1		ND		3.6	11.0
Aflatoxin G2		ND		5.3	16.0
Ochratoxin A	Pass	ND	<20	6.8	21
Total Aflatoxins	Pass	ND	<20	5.3	16.0

Heavy Metals Results **Pass** **9/14/2019**

Heavy metals analysis utilizing Atomic Absorption Spectroscopy (AAS; HI-SOP-015) - **Limit units: µg/g = ppm**

Analyte	Pass/Fail	µg/g	Limit	LOD µg/g	LOQ µg/g
Arsenic	Pass	ND	10	0.00124	1.30
Cadmium	Pass	ND	4	0.0000104	1.30
Lead	Pass	< LOQ	6	0.00150	1.30
Mercury	Pass	< LOQ	2	0.00111	1.30

Residual Solvents Results **NT**

Residual solvents and processing chemicals analysis utilizing Headspace Gas Chromatography – Mass Spectrometry (HS-GC-MS; HI-SOP-010) - **Limit units: ug/g = ppm**

Analyte	Pass/Fail	µg/g	Limit	LOD µg/g	LOQ µg/g	Analyte	Pass/Fail	µg/g	Limit	LOD µg/g	LOQ µg/g
Acetone		NT	NT	NT	NT	Isobutane		NT	NT	NT	NT
Acetonitrile		NT	NT	NT	NT	Isopropanol		NT	NT	NT	NT
Benzene		NT	NT	NT	NT	Methanol		NT	NT	NT	NT
Butanes		NT	NT	NT	NT	n-Pentane		NT	NT	NT	NT
Chloroform		NT	NT	NT	NT	Tetrahydrofuran		NT	NT	NT	NT
Ethanol		NT	NT	NT	NT	Toluene		NT	NT	NT	NT
Heptanes		NT	NT	NT	NT	Total Xylenes		NT	NT	NT	NT
n-Hexane		NT	NT	NT	NT						

Nelson Lazaga, Ph.D
Laboratory Director
Date: 9/16/2019

CERTIFICATE #: HI73216
REVISION #: HI73216.1

Steep Hill Hawaii
1150 S. KING STREET, HONOLULU, HI 96814
LICENSE #: 92630

PJLA Testing
Accreditation # 92630

CERTIFICATE OF ANALYSIS

Terpenoid Results - Standard Terpenes NT

Standard terpene analysis utilizing Liquid Chromatography – Mass Spectrometry (LC-MS; HI-SOP-024)

Analyte	%	mg/g	LOD mg/g	LOQ mg/g
Caryophyllene Oxide	NT	NT	NT	NT
β-Caryophyllene	NT	NT	NT	NT
Citronellol	NT	NT	NT	NT
α-Humulene	NT	NT	NT	NT
Linalool	NT	NT	NT	NT
β-Myrcene	NT	NT	NT	NT
Total	NT	NT	NT	NT

Terpenoid Results - Extended Terpenes NT

Extended terpene analysis utilizing Gas Chromatography – Mass Spectrometry (GC-MS)

Analyte	%	mg/g	LOD mg/g	LOQ mg/g
α-Bisabolol	NT	NT	NT	NT
Camphene	NT	NT	NT	NT
3-Carene	NT	NT	NT	NT
Caryophyllene Oxide	NT	NT	NT	NT
β-Caryophyllene	NT	NT	NT	NT
Eucalyptol	NT	NT	NT	NT
Geraniol	NT	NT	NT	NT
Guaiol	NT	NT	NT	NT
Humulene	NT	NT	NT	NT
p-Isopropyltoluene	NT	NT	NT	NT
Isopulegol	NT	NT	NT	NT
Limonene	NT	NT	NT	NT
Linalool	NT	NT	NT	NT
β-Myrcene	NT	NT	NT	NT
Nerolidol	NT	NT	NT	NT
Ocimene	NT	NT	NT	NT
α-Pinene	NT	NT	NT	NT
β-Pinene	NT	NT	NT	NT
α-Terpinene	NT	NT	NT	NT
γ-Terpinene	NT	NT	NT	NT
Terpinolene	NT	NT	NT	NT
Total	NT	NT	NT	NT

Microbial Impurities Results **Pass** **9/15/2019**

Microbiological screening utilizing PathogenDx and TEMPO (HI-SOP-008 + HI-SOP-007) - **Limit units: CFU/g**

Analyte	Pass/Fail	Result	Limit	LOQ
Aspergillus flavus	Pass	ND	ND	Not Detected in 1 gram
Aspergillus fumigatus	Pass	ND	ND	Not Detected in 1 gram
Aspergillus niger	Pass	ND	ND	Not Detected in 1 gram
Salmonella	Pass	ND	ND	Not Detected in 1 gram
Aerobic	Pass	<100	10000	1 CFU/g
Coliform	Pass	<100	100	1 CFU/g
Enterobacteria	Pass	<100	100	1 CFU/g
General E. coli	Pass	<1	ND	1 CFU/g
Yeast & Mold	Pass	<100	1000	1 CFU/g

Moisture Results NT

Moisture content analysis utilizing Moisture Balance (MB; HI-SOP-033) - **Limit units: %**

Analyte	Pass/Fail	%	Limit
Moisture		NT	NT

Foreign Material Results NT

Foreign material analysis utilizing visual inspection with 10x magnification (HI-SOP-016)

Analyte	Pass/Fail
Visual Inspection	NT

LOD: Limit of Detection
LOQ: Limit of Quantitation
NT: Not Tested
ND: Not Detected

Nelson Lazaga, Ph.D
Laboratory Director
Date: 9/16/2019

The following results relate only to the samples tested and for the specific tests conducted. Steep Hill grants permission to reproduce this document in full only.

CERTIFICATE #: HI73216
REVISION #: HI73216.1