



# CERTIFICATE OF ANALYSIS

Sample Name: 1500 ISO  
 Steep Hill ID: HI74123  
 Batch ID: 9.30.19-01  
 State ID:  
 Sample Type: Tincture  
 Date Received: 9/30/2019  
 Date Reported: 10/3/2019  
 Density: 0.93 g/mL

Customer: Hawaii Cannabis Care

## OVERALL BATCH SUMMARY: PASS

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

### Cannabinoid Results – Standard Potency 10/1/2019

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

Analyte	%	mg/g	mg/mL	LOD mg/g	LOQ mg/g
CBD	5.4	54	50	0.0188	0.0197
CBDA	ND	ND	ND	0.0188	0.034
CBG	ND	ND	ND	0.0188	0.022
CBN	ND	ND	ND	0.0188	0.0188
THC	ND	ND	ND	0.0188	0.0188
THCA	ND	ND	ND	0.0188	0.043
Total	5.4	54	50		

Total THC	Total CBD
Not Detected	5.4 %
Not Detected	54 mg/g
Not Detected	50 mg/mL

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



Nelson Lazaga, Ph.D  
 Laboratory Director  
 Date: 10/3/2019

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**Residual Pesticides Results**

NT

 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	NT	NT	NT	NT	NT	Hexythiazox	NT	NT	NT	NT	NT
Acephate	NT	NT	NT	NT	NT	Imazalil	NT	NT	NT	NT	NT
Acequinocyl	NT	NT	NT	NT	NT	Imidacloprid	NT	NT	NT	NT	NT
Acetamiprid	NT	NT	NT	NT	NT	Kresoxim-methyl	NT	NT	NT	NT	NT
Aldicarb	NT	NT	NT	NT	NT	Malathion	NT	NT	NT	NT	NT
Azoxystrobin	NT	NT	NT	NT	NT	Metalaxyl	NT	NT	NT	NT	NT
Bifenazate	NT	NT	NT	NT	NT	Methiocarb	NT	NT	NT	NT	NT
Bifenthrin	NT	NT	NT	NT	NT	Methomyl	NT	NT	NT	NT	NT
Boscalid	NT	NT	NT	NT	NT	Methyl Parathion	NT	NT	NT	NT	NT
Carbaryl	NT	NT	NT	NT	NT	MGK-264	NT	NT	NT	NT	NT
Carbofuran	NT	NT	NT	NT	NT	Myclobutanil	NT	NT	NT	NT	NT
Chlorantraniliprole	NT	NT	NT	NT	NT	Naled	NT	NT	NT	NT	NT
Chlorfenapyr	NT	NT	NT	NT	NT	Oxamyl	NT	NT	NT	NT	NT
Chlorpyrifos	NT	NT	NT	NT	NT	Paclobutrazol	NT	NT	NT	NT	NT
Clofentezine	NT	NT	NT	NT	NT	Permethrin	NT	NT	NT	NT	NT
Cyfluthrin	NT	NT	NT	NT	NT	Phosmet	NT	NT	NT	NT	NT
Cypermethrin	NT	NT	NT	NT	NT	Piperonyl Butoxide	NT	NT	NT	NT	NT
Diazinon	NT	NT	NT	NT	NT	Prallethrin	NT	NT	NT	NT	NT
Dichlorvos	NT	NT	NT	NT	NT	Propiconazole	NT	NT	NT	NT	NT
Dimethoate	NT	NT	NT	NT	NT	Propoxur	NT	NT	NT	NT	NT
Ethoprophos	NT	NT	NT	NT	NT	Pyrethrins	NT	NT	NT	NT	NT
Etofenprox	NT	NT	NT	NT	NT	Pyridaben	NT	NT	NT	NT	NT
Etoxazole	NT	NT	NT	NT	NT	Spinosad	NT	NT	NT	NT	NT
Fenpyroximate	NT	NT	NT	NT	NT	Spiromesifen	NT	NT	NT	NT	NT
Fipronil	NT	NT	NT	NT	NT	Spirotetramat	NT	NT	NT	NT	NT
Flonicamid	NT	NT	NT	NT	NT	Tebuconazole	NT	NT	NT	NT	NT
Fludioxonil	NT	NT	NT	NT	NT	Thiacloprid	NT	NT	NT	NT	NT

**Mycotoxin Results**

NT

 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	NT	NT	NT	NT	NT
Aflatoxin B2	NT	NT	NT	NT	NT
Aflatoxin G1	NT	NT	NT	NT	NT
Aflatoxin G2	NT	NT	NT	NT	NT
Ochratoxin A	NT	NT	NT	NT	NT
Total Aflatoxins	NT	NT	NT	NT	NT

**Heavy Metals Results**

NT

 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	NT	NT	NT	NT	NT
Cadmium	NT	NT	NT	NT	NT
Lead	NT	NT	NT	NT	NT
Mercury	NT	NT	NT	NT	NT

**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	NT	Isobutane	NT	NT	NT	NT	NT
Acetonitrile	NT	NT	NT	NT	NT	Isopropanol	NT	NT	NT	NT	NT
Benzene	NT	NT	NT	NT	NT	Methanol	NT	NT	NT	NT	NT
Butanes	NT	NT	NT	NT	NT	n-Pentane	NT	NT	NT	NT	NT
Chloroform	NT	NT	NT	NT	NT	Tetrahydrofuran	NT	NT	NT	NT	NT
Ethanol	NT	NT	NT	NT	NT	Toluene	NT	NT	NT	NT	NT
Heptanes	NT	NT	NT	NT	NT	Total Xylenes	NT	NT	NT	NT	NT
n-Hexane	NT	NT	NT	NT	NT						



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**Terpenoid Results - Standard Terpenes** NT

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

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

**Terpenoid Results - Extended Terpenes** NT

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

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

**Microbial Impurities Results**
Pass 10/3/2019

 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



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