# Hemp Quality Assurance Testing
# CERTIFICATE OF ANALYSIS

**DATE ISSUED 05/16/2023**

## SAMPLE NAME: HHC Pineapple Paradise
Concentrate, Product Inhalable

### CULTIVATOR / MANUFACTURER
**Business Name:**
**License Number:**
**Address:**

### DISTRIBUTOR / TESTED FOR
**Business Name:** Hazy Ape
**License Number:**
**Address:**


### SAMPLE DETAIL
**Batch Number:** HHCPP1G230419
**Sample ID:** 230512L031

**Date Collected:** 05/12/2023
**Date Received:** 05/12/2023
**Batch Size:**
**Sample Size:**
**Unit Mass:**
**Serving Size:**

Scan QR code to verify authenticity of results.

## CANNABINOID ANALYSIS - SUMMARY

**Total THC: Not Detected**

**Total CBD: Not Detected**

**Sum of Cannabinoids: 75.09%**

**Total Cannabinoids: 75.09%**

Total THC/CBD is calculated using the following formulas to take into account the loss of a carboxyl group during the decarboxylation step:
Total THC = $\Delta^9$-THC + (THCa (0.877))
Total CBD = CBD + (CBDa (0.877))
Sum of Cannabinoids = $\Delta^9$-THC + THCa + CBD + CBDa + CBG + CBGa + THCV + THCVa + CBC + CBCa + CBDV + CBDVa + $\Delta^8$-THC + CBL + CBN + exo-THC + $\Delta^8$-THCV + $\Delta^8$-iso-THC + 9S-HHC + 9R-HHC + $\Delta^{10}$-THC + $\Delta^9$-THC Acetate
Total Cannabinoids = ($\Delta^9$-THC+0.877*THCa) + (CBD+0.877*CBDa) + (CBG+0.877*CBGa) + (THCV+0.877*THCVa) + (CBC+0.877*CBCa) + (CBDV+0.877*CBDVa) + $\Delta^8$-THC + CBL + CBN + exo-THC + $\Delta^8$-THCV + $\Delta^8$-iso-THC + 9S-HHC + 9R-HHC + $\Delta^{10}$-THC + $\Delta^9$-THC Acetate

## TERPENOID ANALYSIS - SUMMARY

39 TESTED, TOP 3 HIGHLIGHTED

**Total Terpenoids: 3.2592%**

α-Pinene 7.041 mg/g | Myrcene 5.492 mg/g | Limonene 5.185 mg/g

For quality assurance purposes. Not a Regulatory Hemp Lab Test Report. These results relate only to the sample included on this report. This report shall not be reproduced, except in full, without written approval of the laboratory.

**Sample Certification:** California Code of Regulations Title 4 Division 19. Department of Cannabis Control Business and Professions Code. Reference: Sections 26100, 26104 and 26110, Business and Professions Code.

**Decision Rule:** Statements of conformity (e.g. Pass/Fail) to specifications are made in this report without taking measurement uncertainty into account. Where statements of conformity are made in this report, the following decision rules are applied: PASS - Results within limits/specifications, FAIL - Results exceed limits/specifications.

**References:** limit of detection (LOD), limit of quantification (LOQ), not detected (ND), not tested (NT)

LQC verified by: Josh Antunovich
Job Title: Laboratory Manager
Date: 05/16/2023

Approved by: Josh Wurzer
Job Title: Chief Compliance Officer
Date: 05/16/2023

## Cannabinoid Analysis

Tested by high-performance liquid chromatography with diode-array detection (HPLC-DAD).

†Analytes not part of our ISO/IEC 17025 scope of accreditation.

**Method:** QSP 1157 - Analysis of Cannabinoids by HPLC-DAD or QSP 34181 - Semisynthetic Cannabinoids Analysis by HPLC

### TOTAL THC: Not Detected
Total THC ($\Delta^9$-THC+0.877*THCa)

### TOTAL CBD: Not Detected
Total CBD (CBD+0.877*CBDa)

### TOTAL CANNABINOIDS: 75.09%
Total Cannabinoids (Total THC) + (Total CBD) + (Total CBG) + (Total THCV) + (Total CBC) + (Total CBDV) + $\Delta^8$-THC + CBL + CBN + exo-THC + $\Delta^8$-THCV + $\Delta^8$-iso-THC + 9S-HHC + 9R-HHC + $\Delta^{10}$-THC + $\Delta^9$-THC Acetate

### TOTAL CBG: ND
Total CBG (CBG+0.877*CBGa)

### TOTAL THCV: ND
Total THCV (THCV+0.877*THCVa)

### TOTAL CBC: ND
Total CBC (CBC+0.877*CBCa)

### TOTAL CBDV: ND
Total CBDV (CBDV+0.877*CBDVa)

**CANNABINOID TEST RESULTS -** 05/16/2023

| COMPOUND | LOD/LOQ (mg/g) | MEASUREMENT UNCERTAINTY (mg/g) | RESULT (mg/g) | RESULT (%) |
|---|---|---|---|---|
| 9R-HHC† | *0.116 / 0.388* | *±17.7042* | 700.046 | 70.0046 |
| 9S-HHC† | *0.056 / 0.186* | *±1.4732* | 47.755 | 4.7755 |
| $\Delta^8$-THC | *0.1 / 0.4* | *±0.19* | 3.1 | 0.31 |
| $\Delta^9$-THC | *0.06 / 0.26* | *N/A* | ND | ND |
| THCa | *0.05 / 0.14* | *N/A* | ND | ND |
| THCV | *0.1 / 0.2* | *N/A* | ND | ND |
| THCVa | *0.07 / 0.20* | *N/A* | ND | ND |
| CBD | *0.07 / 0.29* | *N/A* | ND | ND |
| CBDa | *0.02 / 0.19* | *N/A* | ND | ND |
| CBDV | *0.04 / 0.15* | *N/A* | ND | ND |
| CBDVa | *0.03 / 0.53* | *N/A* | ND | ND |
| CBG | *0.06 / 0.19* | *N/A* | ND | ND |
| CBGa | *0.1 / 0.2* | *N/A* | ND | ND |
| CBL | *0.06 / 0.24* | *N/A* | ND | ND |
| CBN | *0.1 / 0.3* | *N/A* | ND | ND |
| CBC | *0.2 / 0.5* | *N/A* | ND | ND |
| CBCa | *0.07 / 0.28* | *N/A* | ND | ND |
| $\Delta^{10}$-THC† | *0.083 / 0.276* | *N/A* | ND | ND |
| $\Delta^8$-iso-THC† | *0.053 / 0.176* | *N/A* | ND | ND |
| $\Delta^8$-THCV† | *0.081 / 0.270* | *N/A* | ND | ND |
| $\Delta^9$-THC Acetate† | *0.091 / 0.305* | *N/A* | ND | ND |
| exo-THC† | *0.116 / 0.386* | *N/A* | ND | ND |
| SUM OF CANNABINOIDS | | | 750.9 mg/g | 75.09% |

## Terpenoid Analysis

Terpene analysis utilizing gas chromatography-flame ionization detection (GC-FID).

**Method:** QSP 1192 - Analysis of Terpenoids by GC-FID

**TERPENOID TEST RESULTS -** 05/16/2023

| COMPOUND | LOD/LOQ (mg/g) | MEASUREMENT UNCERTAINTY (mg/g) | RESULT (mg/g) | RESULT (%) |
|---|---|---|---|---|
| α-Pinene | *0.005 / 0.017* | *±0.0472* | 7.041 | 0.7041 |
| Myrcene | *0.008 / 0.025* | *±0.0549* | 5.492 | 0.5492 |
| Limonene | *0.005 / 0.016* | *±0.0576* | 5.185 | 0.5185 |
| β-Pinene | *0.004 / 0.014* | *±0.0418* | 4.692 | 0.4692 |
| β-Caryophyllene | *0.004 / 0.012* | *±0.1012* | 3.653 | 0.3653 |
| α-Humulene | *0.009 / 0.029* | *±0.0419* | 1.674 | 0.1674 |
| Terpinolene | *0.008 / 0.026* | *±0.0178* | 1.121 | 0.1121 |
| α-Bisabolol | *0.008 / 0.026* | *±0.0203* | 0.489 | 0.0489 |
| γ-Terpinene | *0.006 / 0.018* | *±0.0065* | 0.485 | 0.0485 |

Continued on next page

## Terpenoid Analysis *Continued*

**1 α-Pinene**
One of two isomers of the monoterpene Pinene, the most abundant terpene in the natural world. It is responsible for the distinct aroma of many coniferous trees, particularly pines, from which it derives its name. It is a primary constituent of turpentine. Found in pines, rose gun, parsley, frankincense, guava, juniper, rosemary, nutmeg, blue gum, valerian...etc.

**2 Myrcene**
A monoterpene with a fragrance that can be described as peppery, spicy, herbal, floral and woody. Although it has a pleasant odor, it is typically used by the perfume industry as precursor for developing other fragrances. Found in hops, houttuynia, bay, thyme, lemon grass, mango, verbena, cardamom, citrus...etc.

**3 Limonene**
A monoterpene with a fragrance that can be described as orangey, citrusy, sweet and tart. It is most commonly found in nature as D-Limonene and is a primary contributor to the distinct scent of orange peels, from which it is commonly derived. Found in numerous pines, red maple, silver maple, aspens, cottonwoods, hemlocks, sumac, cedar, junipers...etc.

**TERPENOID TEST RESULTS -** 05/16/2023 *continued*

| COMPOUND | LOD/LOQ (mg/g) | MEASUREMENT UNCERTAINTY (mg/g) | RESULT (mg/g) | RESULT (%) |
|---|---|---|---|---|
| α-Phellandrene | *0.006 / 0.020* | *±0.0041* | **0.388** | **0.0388** |
| trans-β-Farnesene | *0.008 / 0.025* | *±0.0105* | **0.380** | **0.0380** |
| Linalool | *0.009 / 0.032* | *±0.0104* | **0.351** | **0.0351** |
| Nerolidol | *0.006 / 0.019* | *±0.0153* | **0.313** | **0.0313** |
| Caryophyllene Oxide | *0.010 / 0.033* | *±0.0098* | **0.274** | **0.0274** |
| Valencene | *0.009 / 0.030* | *±0.0131* | **0.245** | **0.0245** |
| Camphene | *0.005 / 0.015* | *±0.0014* | **0.153** | **0.0153** |
| Fenchol | *0.010 / 0.034* | *±0.0033* | **0.109** | **0.0109** |
| Terpineol | *0.009 / 0.031* | *±0.0043* | **0.090** | **0.0090** |
| p-Cymene | *0.005 / 0.016* | *±0.0018* | **0.086** | **0.0086** |
| α-Cedrene | *0.005 / 0.016* | *±0.0017* | **0.071** | **0.0071** |
| $\Delta^3$-Carene | *0.005 / 0.018* | *±0.0007* | **0.063** | **0.0063** |
| β-Ocimene | *0.006 / 0.020* | *±0.0012* | **0.048** | **0.0048** |
| Geraniol | *0.002 / 0.007* | *±0.0013* | **0.037** | **0.0037** |
| Isopulegol | *0.005 / 0.016* | *±0.0011* | **0.036** | **0.0036** |
| Menthol | *0.008 / 0.025* | *±0.0008* | **0.026** | **0.0026** |
| Citronellol | *0.003 / 0.010* | *±0.0008* | **0.022** | **0.0022** |
| Camphor | *0.006 / 0.019* | *±0.0006* | **0.021** | **0.0021** |
| α-Terpinene | *0.005 / 0.017* | *±0.0002* | **0.020** | **0.0020** |
| Nerol | *0.003 / 0.011* | *±0.0005* | **0.014** | **0.0014** |
| Isoborneol | *0.004 / 0.012* | *±0.0004* | **0.013** | **0.0013** |
| Pulegone | *0.003 / 0.011* | *N/A* | **<LOQ** | **<LOQ** |
| Sabinene | *0.004 / 0.014* | *N/A* | **ND** | **ND** |
| Eucalyptol | *0.006 / 0.018* | *N/A* | **ND** | **ND** |
| Sabinene Hydrate | *0.006 / 0.022* | *N/A* | **ND** | **ND** |
| Fenchone | *0.009 / 0.028* | *N/A* | **ND** | **ND** |
| Borneol | *0.005 / 0.016* | *N/A* | **ND** | **ND** |
| Geranyl Acetate | *0.004 / 0.014* | *N/A* | **ND** | **ND** |
| Guaiol | *0.009 / 0.030* | *N/A* | **ND** | **ND** |
| Cedrol | *0.008 / 0.027* | *N/A* | **ND** | **ND** |
| **TOTAL TERPENOIDS** | | | **32.592 mg/g** | **3.2592%** |