

PharmLabs San Diego Certificate of Analysis

3421 Hancock St, Second Floor, San Diego, CA 92110 | License: C8-000098-LIC  
 ISO/IEC 17025:2017 Certification L17-427-1 | Accreditation #85368



Sample **Extrax Malawi Gold - S**

|                   |                      |               |                                  |
|-------------------|----------------------|---------------|----------------------------------|
| Sample ID         | SD220811-006 (51007) | Matrix        | Flower (Inhalable Cannabis Good) |
| Tested for        | Top Shelf Hemp Co    |               |                                  |
| Sampled           | -                    | Received      | Feb 26, 2023                     |
|                   |                      | Reported      | Mar 1, 2023                      |
| Analyses executed | FP-IO                | Unit Mass (g) | 3.5                              |

Laboratory note: The estimated concentration of the unknown peak in the sample is 0.88%. Currently PharmLabs laboratory can not confirm an unidentified peak in your chromatogram due to interference (only with highly concentrated D8 products) from which we believe to be either (+)d8-THC or d9-THC. At this time there are no reference standards available for (+)d8-THC. (+)d8-THC is a different compound from the main (-)d8-THC cannabinoid and, therefore, these two compounds may have different efficacies. Using the most advanced instruments and techniques available, the separation of (+)d8-THC and d9-THC is problematic for the scientific community as a whole. PharmLabs believes the unidentified peak to be a combination of (+)d8-THC and d9-THC with the majority, if not all, of the concentration being (+)d8-THC. Total cannabinoids is estimated to be 20.3%

**\*CAN+ - Cannabinoids Analysis**

Analyzed Feb 27, 2023 | Instrument HPLC-VWD | Method SOP-001  
 Measurement Uncertainty at 95% confidence 7.806%

| Analyte                               | LOD mg/g | LOQ mg/g | Result %     | Result mg/g   | Result mg/Package |
|---------------------------------------|----------|----------|--------------|---------------|-------------------|
| Cannabidiol (CBD)                     | 0.039    | 0.16     | ND           | ND            | ND                |
| Cannabidiolol Acid (CBDA)             | 0.001    | 0.16     | 9.00         | 90.02         | 315.06            |
| Cannabigerol Acid (CBGA)              | 0.001    | 0.16     | 0.26         | 2.64          | 9.26              |
| Cannabigerol (CBG)                    | 0.001    | 0.16     | 0.07         | 0.71          | 1.66              |
| Cannabidiol (CBD)                     | 0.001    | 0.16     | 1.42         | 14.22         | 42.73             |
| Tetrahydrocannabivarin (THCV)         | 0.001    | 0.16     | ND           | ND            | ND                |
| Cannabinol (CBN)                      | 0.001    | 0.16     | ND           | ND            | ND                |
| Tetrahydrocannabinol (Δ9-THC)         | 0.003    | 0.16     | UI           | UI            | UI                |
| Δ8-tetrahydrocannabinol (Δ8-THC)      | 0.004    | 0.16     | 8.52         | 85.21         | 301.74            |
| Cannabicyclol (CBL)                   | 0.002    | 0.16     | ND           | ND            | ND                |
| Cannabichromene (CBC)                 | 0.002    | 0.16     | ND           | ND            | ND                |
| Tetrahydrocannabinolic Acid (THCA)    | 0.001    | 0.16     | 0.21         | 2.09          | 7.31              |
| <b>Total THC (THCa * 0.877 + THC)</b> |          |          | <b>0.18</b>  | <b>1.83</b>   | <b>6.41</b>       |
| <b>Total CBD (CBDa * 0.877 + CBD)</b> |          |          | <b>9.32</b>  | <b>93.16</b>  | <b>336.07</b>     |
| <b>Total CBG (CBGa * 0.877 + CBG)</b> |          |          | <b>0.41</b>  | <b>4.08</b>   | <b>11.78</b>      |
| <b>TOTAL CANNABINOIDS</b>             |          |          | <b>19.43</b> | <b>194.29</b> | <b>677.00</b>     |

\*Dry Weight %

**HME - Heavy Metals Detection Analysis**

Analyzed Feb 27, 2023 | Instrument ICP/MSMS | Method SOP-005

| Analyte      | LOD ug/g | LOQ ug/g | Result ug/g | Limit ug/g | Analyte      | LOD ug/g | LOQ ug/g | Result ug/g | Limit ug/g |
|--------------|----------|----------|-------------|------------|--------------|----------|----------|-------------|------------|
| Arsenic (As) | 0.0002   | 0.05     | 0.09        | 0.2        | Cadmium (Cd) | 3.0e-05  | 0.05     | 0.12        | 0.2        |
| Mercury (Hg) | 1.0e-05  | 0.01     | 0.02        | 0.1        | Lead (Pb)    | 1.0e-05  | 0.125    | 0.32        | 0.5        |

UI Not Identified  
 ND Not Detected  
 N/A Not Applicable  
 NT Not Reported  
 LOD Limit of Detection  
 LOQ Limit of Quantification  
 <LOQ Detected  
 >ULOL Above upper limit of linearity  
 CFU/g Colony Forming Units per 1 gram  
 TNTC Too Numerous to Count



Authorized Signature

*Brandon Starr*

Brandon Starr, Lab Manager  
 Wed, 1 Mar 2023 17:10:09 -0700

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### MIBIG - Microbial Testing Analysis

Analyzed Feb 27, 2023 | Instrument qPCR and/or Plating | Method SOP-007

| Analyte                                | Result CFU/g | Limit         | Analyte             | Result CFU/g | Limit         |
|--|--------------|---------------|---------------------|--------------|---------------|
| Shiga toxin-producing Escherichia Coli | ND           | ND per 1 gram | Salmonella spp.     | ND           | ND per 1 gram |
| Aspergillus fumigatus                  | ND           | ND per 1 gram | Aspergillus flavus  | ND           | ND per 1 gram |
| Aspergillus niger                      | ND           | ND per 1 gram | Aspergillus terreus | ND           | ND per 1 gram |

### MTO - Mycotoxin Testing Analysis

Analyzed Feb 27, 2023 | Instrument LC/MSMS | Method SOP-004

| Analyte      | LOD ug/kg | LOQ ug/kg | Result ug/kg (ppb) | Limit ug/kg | Analyte          | LOD ug/kg | LOQ ug/kg | Result ug/kg (ppb) | Limit ug/kg |
|--------------|-----------|-----------|--------------------|-------------|------------------|-----------|-----------|--------------------|-------------|
| Ochratoxin A | 5.0       | 20.0      | ND                 | 20          | Aflatoxin B1     | 2.5       | 5.0       | ND                 |             |
| Aflatoxin B2 | 2.5       | 5.0       | ND                 |             | Aflatoxin G1     | 2.5       | 5.0       | ND                 |             |
| Aflatoxin G2 | 2.5       | 5.0       | ND                 |             | Total Aflatoxins | 10.0      | 20.0      | ND                 | 20          |

UI Not Identified  
 ND Not Detected  
 N/A Not Applicable  
 NT Not Reported  
 LOD Limit of Detection  
 LOQ Limit of Quantification  
 <LOQ Detected  
 >ULOL Above upper limit of linearity  
 CFU/g Colony Forming Units per 1 gram  
 TNTC Too Numerous to Count



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Brandon Starr, Lab Manager  
 Wed, 1 Mar 2023 17:10:09 -0700

## PES - Pesticides Screening Analysis

Analyzed Feb 27, 2023 | Instrument LC/MSMS GC/MSMS | Method SOP-003

| Analyte                 | LOD ug/g | LOQ ug/g | Result ug/g | Limit ug/g | Analyte               | LOD ug/g | LOQ ug/g | Result ug/g | Limit ug/g |
|-------------------------|----------|----------|-------------|------------|-----------------------|----------|----------|-------------|------------|
| Aldicarb                | 0.0078   | 0.02     | ND          | 0.0078     | Carbofuran            | 0.01     | 0.02     | ND          | 0.01       |
| Dimethoate              | 0.01     | 0.02     | ND          | 0.01       | Etofenprox            | 0.02     | 0.1      | ND          | 0.02       |
| Fenoxycarb              | 0.01     | 0.02     | ND          | 0.01       | Thiachloprid          | 0.01     | 0.02     | ND          | 0.01       |
| Daminozide              | 0.01     | 0.03     | ND          | 0.01       | Dichlorvos            | 0.02     | 0.07     | ND          | 0.02       |
| Imazalil                | 0.02     | 0.07     | ND          | 0.02       | Methiocarb            | 0.01     | 0.02     | ND          | 0.01       |
| Spiroxamine             | 0.01     | 0.02     | ND          | 0.01       | Coumaphos             | 0.01     | 0.02     | ND          | 0.01       |
| Fipronil                | 0.01     | 0.1      | ND          | 0.01       | Paclobutrazol         | 0.01     | 0.03     | ND          | 0.01       |
| Chlorpyrifos            | 0.01     | 0.04     | ND          | 0.01       | Ethoprophos (Prophos) | 0.01     | 0.02     | ND          | 0.01       |
| Baygon (Propoxur)       | 0.01     | 0.02     | ND          | 0.01       | Chlordane             | 0.04     | 0.1      | ND          | 0.04       |
| Chlorfenapyr            | 0.03     | 0.1      | ND          | 0.03       | Methyl Parathion      | 0.02     | 0.1      | ND          | 0.02       |
| Mevinphos               | 0.03     | 0.08     | ND          | 0.03       | Abamectin             | 0.03     | 0.08     | ND          | 0.1        |
| Acephate                | 0.02     | 0.05     | ND          | 0.1        | Acetamiprid           | 0.01     | 0.05     | ND          | 0.1        |
| Azoxystrobin            | 0.01     | 0.02     | ND          | 0.1        | Bifenazate            | 0.01     | 0.05     | ND          | 0.1        |
| Bifenthrin              | 0.02     | 0.35     | ND          | 3          | Boscalid              | 0.01     | 0.03     | ND          | 0.1        |
| Carbaryl                | 0.01     | 0.02     | ND          | 0.5        | Chlorantraniliprole   | 0.01     | 0.04     | ND          | 10         |
| Clofentezine            | 0.01     | 0.03     | ND          | 0.1        | Diazinon              | 0.01     | 0.02     | ND          | 0.1        |
| Dimethomorph            | 0.02     | 0.06     | ND          | 2          | Etoxazole             | 0.01     | 0.05     | ND          | 0.1        |
| Fenpyroximate           | 0.02     | 0.1      | ND          | 0.1        | Fonicamid             | 0.01     | 0.02     | ND          | 0.1        |
| Fludioxonil             | 0.01     | 0.05     | ND          | 0.1        | Hexythiazox           | 0.01     | 0.03     | ND          | 0.1        |
| Imidacloprid            | 0.01     | 0.05     | ND          | 5          | Kresoxim-methyl       | 0.01     | 0.03     | ND          | 0.1        |
| Malathion               | 0.01     | 0.05     | ND          | 0.5        | Metalaxyl             | 0.01     | 0.02     | ND          | 2          |
| Methomyl                | 0.02     | 0.05     | ND          | 1          | Myclobutanil          | 0.02     | 0.07     | ND          | 0.1        |
| Naled                   | 0.01     | 0.02     | ND          | 0.1        | Oxamyl                | 0.01     | 0.02     | ND          | 0.5        |
| Permethrin              | 0.01     | 0.02     | ND          | 0.5        | Phosmet               | 0.01     | 0.02     | ND          | 0.1        |
| Piperonyl Butoxide      | 0.02     | 0.06     | ND          | 3          | Propiconazole         | 0.03     | 0.08     | ND          | 0.1        |
| Prallethrin             | 0.02     | 0.05     | ND          | 0.1        | Pyrethrin             | 0.05     | 0.41     | ND          | 0.5        |
| Pyridaben               | 0.02     | 0.07     | ND          | 0.1        | Spinosad A            | 0.01     | 0.05     | ND          | 0.1        |
| Spinosad D              | 0.01     | 0.05     | ND          | 0.1        | Spiromesifen          | 0.02     | 0.06     | ND          | 0.1        |
| Spirotetramat           | 0.01     | 0.02     | ND          | 0.1        | Tebuconazole          | 0.01     | 0.02     | ND          | 0.1        |
| Thiamethoxam            | 0.01     | 0.02     | ND          | 5          | Trifloxystrobin       | 0.01     | 0.02     | ND          | 0.1        |
| Acequinocyl             | 0.02     | 0.09     | ND          | 0.1        | Captan                | 0.01     | 0.02     | ND          | 0.7        |
| Cypermethrin            | 0.02     | 0.1      | ND          | 1          | Cyfluthrin            | 0.04     | 0.1      | ND          | 2          |
| Fenhexamid              | 0.02     | 0.07     | ND          | 0.1        | Spinetoram J,L        | 0.02     | 0.07     | ND          | 0.1        |
| Pentachloronitrobenzene | 0.01     | 0.1      | ND          | 0.1        |                       |          |          |             |            |

UI Not Identified  
 ND Not Detected  
 N/A Not Applicable  
 NT Not Reported  
 LOD Limit of Detection  
 LOQ Limit of Quantification  
 <LOQ Detected  
 >ULOL Above upper limit of linearity  
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## RES - Residual Solvents Testing Analysis

Analyzed Feb 27, 2023 | Instrument GC/FID with Headspace Analyzer | Method SOP-006

| Analyte                    | LOD ug/g | LOQ ug/g | Result ug/g | Limit ug/g | Analyte                      | LOD ug/g | LOQ ug/g | Result ug/g | Limit ug/g |
|----------------------------|----------|----------|-------------|------------|------------------------------|----------|----------|-------------|------------|
| Propane (Prop)             | 0.4      | 40.0     | ND          | 5000       | Butane (But)                 | 0.4      | 40.0     | ND          | 5000       |
| Methanol (Metha)           | 0.4      | 40.0     | ND          | 3000       | Ethylene Oxide (EthOx)       | 0.4      | 0.8      | ND          | 1          |
| Pentane (Pen)              | 0.4      | 40.0     | ND          | 5000       | Ethanol (Ethan)              | 0.4      | 40.0     | ND          | 5000       |
| Ethyl Ether (EthEt)        | 0.4      | 40.0     | ND          | 5000       | Acetone (Acet)               | 0.4      | 40.0     | 72.9        | 5000       |
| Isopropanol (2-Pro)        | 0.4      | 40.0     | ND          | 5000       | Acetonitrile (Acetonit)      | 0.4      | 40.0     | ND          | 410        |
| Methylene Chloride (MetCh) | 0.4      | 0.8      | ND          | 1          | Hexane (Hex)                 | 0.4      | 40.0     | ND          | 290        |
| Ethyl Acetate (EthAc)      | 0.4      | 40.0     | ND          | 5000       | Chloroform (Clo)             | 0.4      | 0.8      | ND          | 1          |
| Benzene (Ben)              | 0.4      | 0.8      | ND          | 1          | 1-2-Dichloroethane (12-Dich) | 0.4      | 0.8      | ND          | 1          |
| Heptane (Hep)              | 0.4      | 40.0     | ND          | 5000       | Trichloroethylene (TriClEth) | 0.4      | 0.8      | ND          | 1          |
| Toluene (Toluene)          | 0.4      | 40.0     | ND          | 890        | Xylenes (Xyl)                | 0.4      | 40.0     | ND          | 2170       |

## FVI - Filth &amp; Foreign Material Inspection Analysis

Analyzed Feb 27, 2023 | Instrument Microscope | Method SOP-010

| Analyte / Limit  | Result | Analyte / Limit  | Result |
|--|--------|--|--------|
| > 1/4 of the total sample area covered by sand, soil, cinders, or dirt | ND     | > 1/4 of the total sample area covered by mold                         | ND     |
| > 1 insect fragment, 1 hair, or 1 count mammalian excreta per 3g       | ND     | > 1/4 of the total sample area covered by an imbedded foreign material | ND     |

## MWA - Moisture Content &amp; Water Activity Analysis

Analyzed Feb 27, 2023 | Instrument Chilled-mirror Dewpoint and Capacitance | Method SOP-008

| Analyte        | Result   | Limit   | Analyte             | Result              | Limit               |
|----------------|----------|---------|---------------------|---------------------|---------------------|
| Moisture (Moi) | 8.4 % Mw | 13 % Mw | Water Activity (WA) | 0.58 a <sub>w</sub> | 0.85 a <sub>w</sub> |

UI Not Identified  
 ND Not Detected  
 N/A Not Applicable  
 NT Not Reported  
 LOD Limit of Detection  
 LOQ Limit of Quantification  
 <LOQ Detected  
 >ULOL Above upper limit of linearity  
 CFU/g Colony Forming Units per 1 gram  
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