

## Chemical Content Analysis

Date: 10-04-2019

Client: Vitality CBD Ltd.

Product: Vitality CBD Full Spectrum Berry 1200mg

Batch No: 7145A-FSCBD241200

Lab ID: CBD0174

DOP: 11/03/2019

### Visual Inspection:

Pale yellow liquid, translucent.

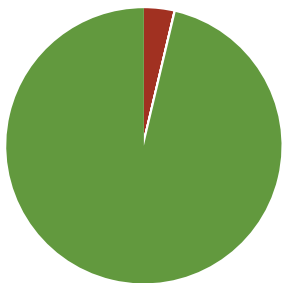
### Method Summary:

1ml of sample was measured in a pipette and extracted in Methanol to provide a sample at 0.04mg/ml. The sample was diluted further in Methanol. CBD content was analysed on an Agilent HPLC fitted with a DAD detector. Content on HPLC was analysed against a standard calibration of CBD, CBN and THC, supplied by Restek, as well as CBDA and THCA supplied by Sigma-Aldrich. The results are presented in Table 1 and Figure 1 below.

Compound	CAS Number	Concentration (mg/ml)	LoQ (µg/ml)
Cannabidiol	13956-291	39.94	0.1
Cannabinol	521-35-7	BQL	0.1
Delta-9- Tetrahydrocannabinol	1972-08-3	BQL	0.1
Cannabidiolic Acid	1244-58-2	0.23	0.1
Delta-9-Tetrahydrocannabinolic Acid	23978-85-0	BQL	0.2

BQL, Below Quantitation Limit.

### % Content of Sample



CBD: 3.688%  
 CBN: BQL  
 THC: BQL  
 CBDA: 0.021%  
 THCA: BQL  
 Other Contents: 96.291

■ CBD ■ CBN ■ THC ■ CBDA ■ THCA ■ Other Contents

Figure 1. Pie chart of the analysis result.

### Comments:

1200mg of CBD in 30ml is equivalent to 40mg/ml

Acceptance Criteria: ±5% of target concentration CBD total, including CBDA, below legal limit of CBN, THC and THCA.

CBD- Cannabidiol

CBDA- Cannabidiolic Acid

CBN- Cannabinol. The legal limit for this compound is 1mg per container.

THC- delta-9-Tetrahydrocannabinol.

THCA- delta-9-Tetrahydrocannabinolic Acid. The legal limit for both THC and THCA this compound is 1mg per container

The sample passes all acceptance criteria for CBD, CBN and THC.

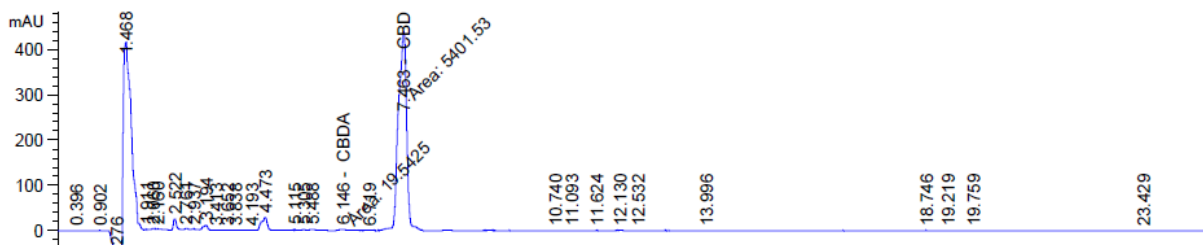


Figure 2. Chromatogram of the analysis

### Analysis By:

Lawrence Theobald

### Approved By:

Mark Portsmouth, Analytical Chemistry Consultant

DATE: 10-04-2019

## Ingredient Breakdown

All Information as declared by the supplier

Extract Batch No:-TM57.5

Date of Manufacture:-13-11-2018

Date of Analysis:-26-11-2018

### Summary:

In the production of Full Spectrum and Full Plant products, Hemp Oil was used. The supplier of this oil has supplied their own Certificate of Analysis, which is presented below. In the final products, these amounts will be lower, based on the respective amounts used in the recipe.

### CANNABINOID PROFILE

	wt%	mg/g	
CBDV	10,71	107,1	10,71 wt%
CBDA	0,75	7,5	0,75 wt%
CBGA	< 0.03	< 0.3	
CBG	3,23	32,3	3,23 wt%
CBD	57,65	576,5	57,65 wt%
THCV	4,10	41,0	4,10 wt%
CBN	0,04	0,4	0,04 wt%
CBC	< 0.03	< 0.3	
THC	0,14	1,4	0,14 wt%
THCA	< 0.03	< 0.3	
<b>TOTAL</b>	<b>76,62</b>	<b>766,2</b>	

Measurement units and abbreviations: wt% = weight percent, mg/g = milligram/gram, BLQ = Below the Limit of Quantitation (0.03 wt%).

**Table 1:** Cannabinoid profile of raw hemp oil stock used in production, as declared by supplier.

**DATE: 12/03/2019**

#### Glossary:

CBDV- Cannabidivarin  
 CBDA- Cannabidiolic Acid  
 CBGA- Cannabigerolic Acid  
 CBG- Cannabigerol  
 CBD- Cannabidiol  
 THCV- Tetrahydrocannabivarin  
 CBN- Cannabinol  
 CBC- Cannabichromene  
 THC- delta-9-Tetrahydrocannabinol.  
 THCA- delta-9-Tetrahydrocannabinolic Acid.