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**TEST REPORT**

**REPORT NO.: 19-07-14508**

*Celtic Wind Crops Limited  
Malta House  
Sean O'Carroll Street  
Ardee  
Co.Louth.  
Att : Mr. Sean McCourt.*

<i>Date of Sample:</i>	<i>01-August-2019</i>	<i>Test Report Number:</i>	<i>19-07-14508</i>
<i>Date of Receipt:</i>	<i>02-August-2019</i>	<i>Sample Type:</i>	<i>2,000mg CBD Multi-Complex Hemp Oil</i>
<i>Date of Report:</i>	<i>06-August-2019</i>	<i>Sample Reference:</i>	<i>Ref. BN01-009-0719</i>
<i>Laboratory Ref. Number:</i>	<i>19-16708</i>	<i>Sample Presentation:</i>	<i>20mls. Dispensing Bottle</i>
		<i>Weight of sample :</i>	

**Abbreviations :**

*% Vol :*      *percentage volume.*

*% wt:*      *percentage weight.*

*mg/L :*      *milligrams per litre (ppm).*

*ppm :*      *parts per million or mg per litre.*

*mg/g:*      *milligrams per gram.*

## Cannabinoid Profile Analysis

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Cannabidiol CBD.	UHPLC-MS-MS	JHG-249	% mass	19.680
Cannabigerol CBG.	UHPLC-MS-MS	JHG-249	% mass	0.200
Cannabichromene CBC.	UHPLC-MS-MS	JHG-249	% mass	0.148
Delta-9-Tetrahydrocannabinol THC.	UHPLC-MS-MS	JHG-249	% mass	Not Detected
Cannabidiol acid CBD-A	UHPLC-MS-MS	JHG-249	% mass	0.100
Cannabigerolic acid CBG-A	UHPLC-MS-MS	JHG-249	% mass	0.100
Tetrahydrocannabivarin THCV	UHPLC-MS-MS	JHG-249	% mass	Not Detected
Tetrahydrocannabivarin Carboxylic acid THCV-A	UHPLC-MS-MS	JHG-249	% mass	Not Detected

Gluten	RP-HPLC	JHG-FT-017	ppm.	< 1
Water Activity $A_w$	Manometric Pressure Measurement	ASTM D8196-18	Without Unit	0.68 $A_w$
Density	Densitometry	EN ISO 12154:2014	$g/cm^3$	0.9352

**Comment:**

Result of Delta-9-Tetrahydrocannabinol (THC) of less than 0.0005% is based on Limit of Detection (LOD) for the Instrumentation used in this method. This is the smallest concentration of analyte that can be reported and is based on analysis of a minimum of 7 spiked samples and 7 method blank samples.



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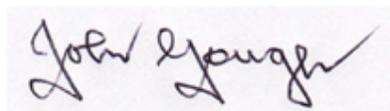
## Microbiological Analysis

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Staph. aureus	Pour Plate Count	APHA 9222	CFU/g.	5
Salmonella spp.	Pour Plate Count	APHA 9222	CFU/25g.	< 1
Listeria spp.	Pour Plate Count	APHA 9222	CFU/25g.	< 1
Bacillus cereus	Pour Plate Count	APHA 9222	CFU/g.	< 1
Clostridia spp.	Pour Plate Count	APHA 9222	CFU/g.	< 1
Enterobacteriaceae	Pour Plate Count	APHA 9222	CFU/g.	< 1
Esch. Coli	Pour Plate Count	APHA 9222	CFU/g.	< 1
Yeasts/Molds	Pour Plate Count	APHA 9222	CFU/g.	7

## Terpenes Analysis

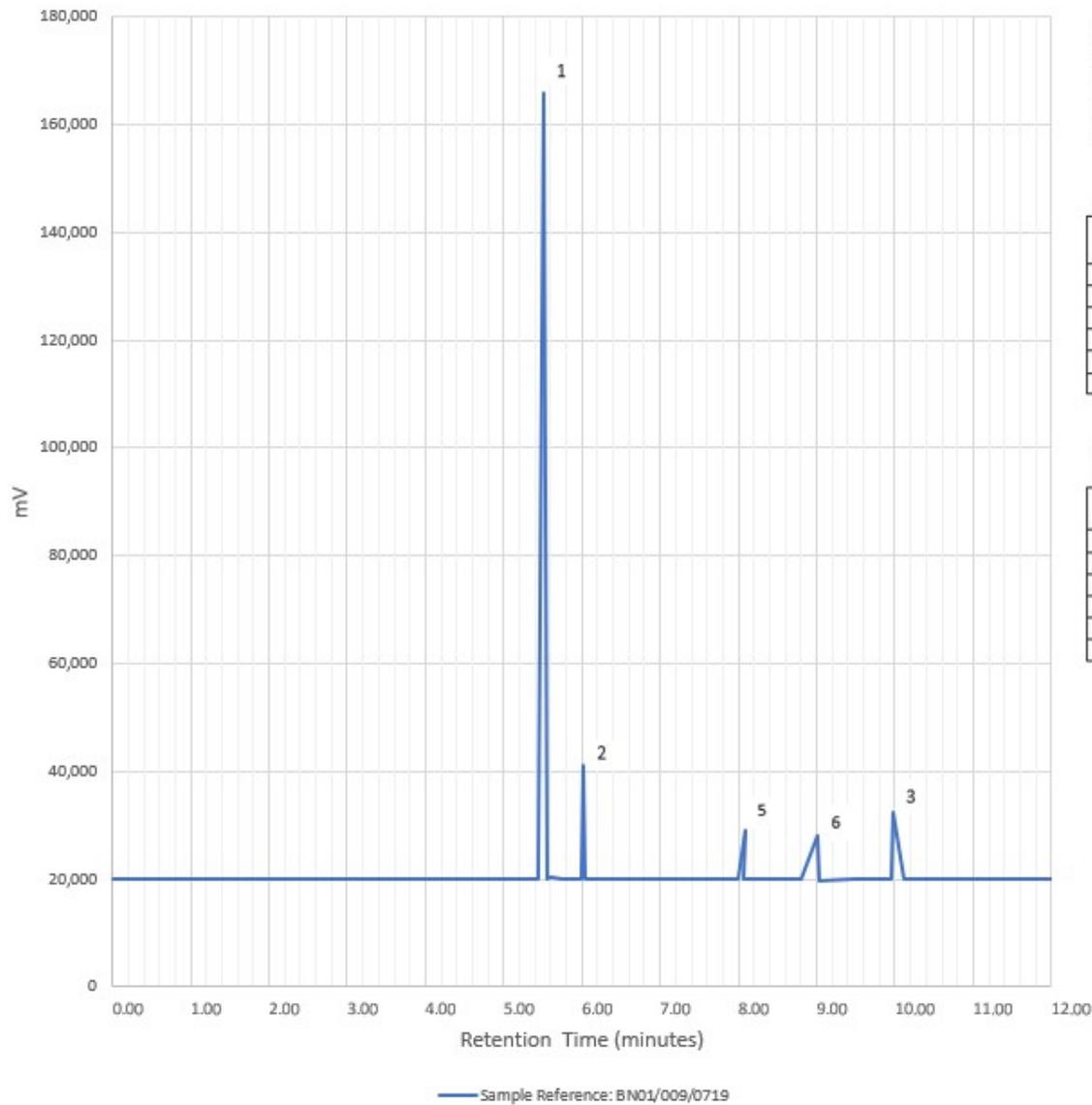
Parameter	Method of Analysis	Method Reference	Units	Reported Levels
$\beta$ -Caryophellene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	72
Myrcene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	55
$\beta$ -Sitosterol	GC-FID	Shimadzu HS-GC-FID	mg/kg.	38
Terpinolene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	25
$\alpha$ -Pinene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	25
$\beta$ -Pinene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	26
Bergamotene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	31
Limonene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	35
Merolidol	GC-FID	Shimadzu HS-GC-FID	mg/kg.	30
Linalool	GC-FID	Shimadzu HS-GC-FID	mg/kg.	28
Humulene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	30
Bisabolol	GC-FID	Shimadzu HS-GC-FID	mg/kg.	24
Valencene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	19
Terpinol	GC-FID	Shimadzu HS-GC-FID	mg/kg.	18
Borneol	GC-FID	Shimadzu HS-GC-FID	mg/kg.	18
Delta-3-Carene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	20

**J.W. GOUGH**



Technical Signatory.

Dated: 6<sup>th</sup>. August 2019



Client: Celtic Wind Crops Ltd.  
 Sample: 2,000mg Multi-Complex Hemp Oil  
 Ref.: BN01-009-0719  
 Sample Date: 01.08.19  
 Lab. No.: 19- 16708  
 Analysis: Cannabinoids Profile

**Table 1. Results**

Chromatogram No.	Cannabinoid	% m/m
1	CBD	19.680
2	CBG	0.200
3	CBC	0.148
4	THC	Not Detected
5	CBD-A	0.100
6	CBG-A	0.100

**Table 2.**

Linearity Coefficient and % Recovery of Cannabinoids by PDA @ 210nm.

Cannabinoid	Linearity R <sup>2</sup>	% Recovery
Cannabidiol CBD.	0.99994	92.7
Cannabigerol CBG.	0.99951	92.9
Cannabichromene CBC.	0.00058	102.1
Delta-9-Tetrahydrocannabinol THC.	0.99925	96.6
Cannabidiolic acid CBD-A.	0.99947	93.8
Cannabigerolic acid CBG-A.	0.99922	91.1