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TEST REPORT

REPORT NO.: 19-10-15127

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

<i>Date of Sample:</i>	<i>09-October-2019</i>	<i>Test Report Number:</i>	<i>19-10-15127</i>
<i>Date of Receipt:</i>	<i>10-October-2019</i>	<i>Sample Type:</i>	<i>500mg CBD Multi-Complex Hemp Oil</i>
<i>Date of Report:</i>	<i>18-October-2019</i>	<i>Sample Reference:</i>	<i>Ref. BN01-003-0919</i>
<i>Laboratory Ref. Number:</i>	<i>19-17327</i>	<i>Sample Presentation:</i>	<i>10mls. 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.	HPLC-PDA	JHG-249	% mass	4.790
Cannabigerol CBG.	HPLC-PDA	JHG-249	% mass	0.200
Cannabichromene CBC.	HPLC-PDA	JHG-249	% mass	0.125
Delta-9-Tetrahydrocannabinol THC.	HPLC-PDA	JHG-249	% mass	Not Detected
Cannabidiol acid CBD-A	HPLC-PDA	JHG-249	% mass	0.088
Cannabigerolic acid CBG-A	HPLC-PDA	JHG-249	% mass	0.033
Tetrahydrocannabivarin THCV	HPLC-PDA	JHG-249	% mass	Not Detected
Tetrahydrocannabivarin Carboxylic acid THCV-A	HPLC-PDA	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	0.69 A_w
Density	Densitometry	EN ISO 12154:2014	g/cm^3	0.9359

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.	4
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.	10

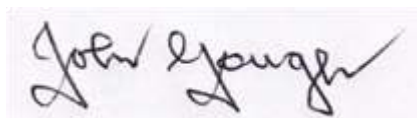
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Terpenes Analysis

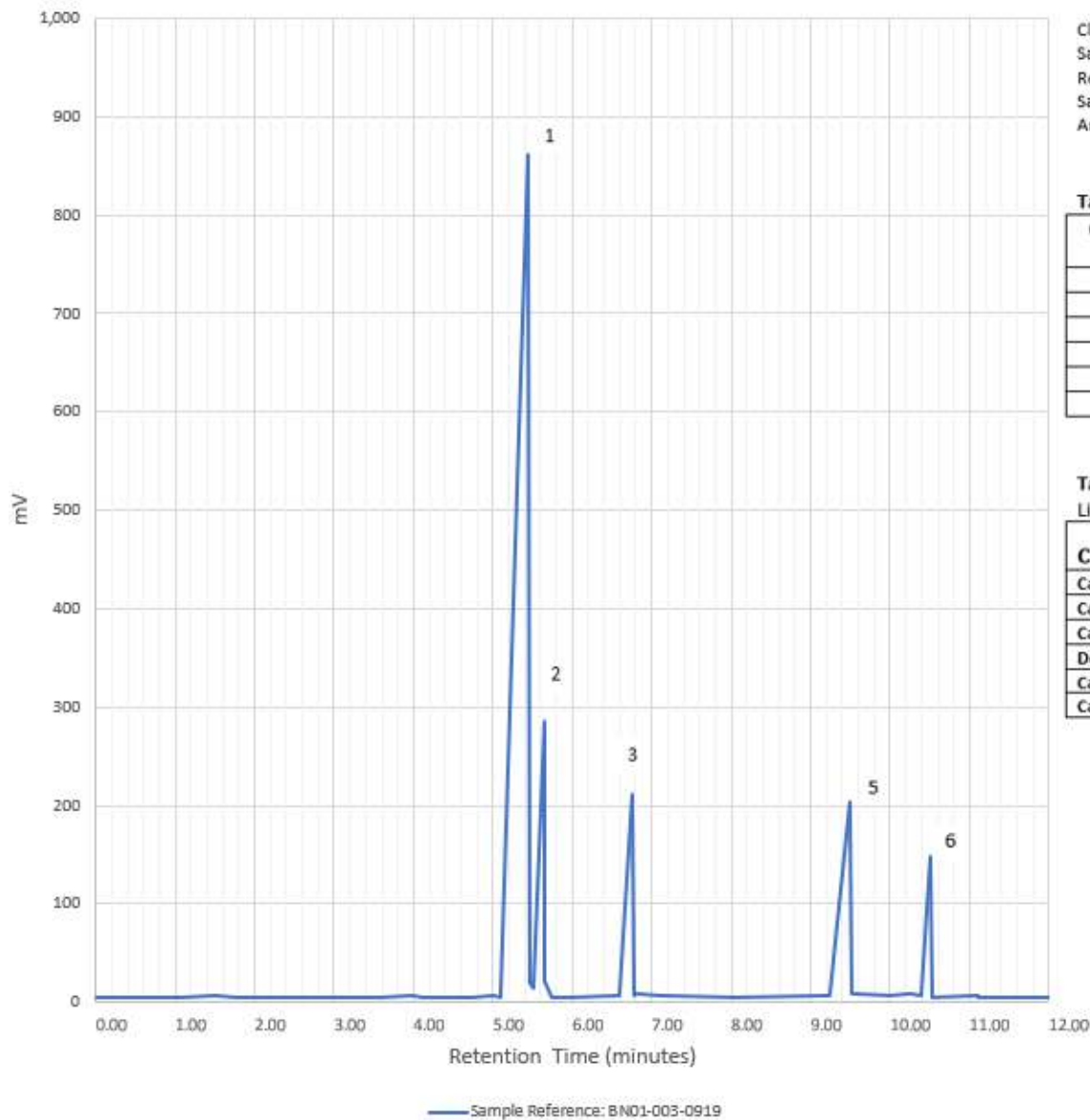
Parameter	Method of Analysis	Method Reference	Units	Reported Levels
β -Caryophellene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	24
Myrcene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	21
β -Sitosterol	GC-FID	Shimadzu HS-GC-FID	mg/kg.	19
Terpinolene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	18.80
A-Pinene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	15.50
β -Pinene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	8
Bergamotene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	9
Limonene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	6.50
Merolidol	GC-FID	Shimadzu HS-GC-FID	mg/kg.	6.90
Linalool	GC-FID	Shimadzu HS-GC-FID	mg/kg.	10
Humulene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	9
Bisabolol	GC-FID	Shimadzu HS-GC-FID	mg/kg.	9.90
Valencene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	10
Terpinol	GC-FID	Shimadzu HS-GC-FID	mg/kg.	11
Borneol	GC-FID	Shimadzu HS-GC-FID	mg/kg.	8.50
Delta-3-Carene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	10

J.W. GOUGH



Technical Signatory.

Dated: 18th. October 2019



Client: Celtic Wind Crops Ltd.
 Sample: 500mg Multi-Complex Hemp Oil
 Ref.: BND1-003-0919
 Sample Date: 09.09.19
 Analysis: Cannabinoids Profile

Table 1. Results

Chromatogram No.	Cannabinoid	% m/m
1	CBD	4.790
2	CBG	0.200
3	CBC	0.125
4	THC	Not Detected
5	CBD-A	0.088
6	CBG-A	0.033

Table 2.

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

Cannabinoid	Linearity R ²	% 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