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TEST REPORT

REPORT NO.: 19-06-14117

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

<i>Date of Sample:</i>	<i>13-June-2019</i>	<i>Test Report Number:</i>	<i>19-06-14117</i>
<i>Date of Receipt:</i>	<i>17-June-2019</i>	<i>Sample Type:</i>	<i>300mg CBD Multi-Complex Hemp Oil Concentrate Sample</i>
<i>Date of Report:</i>	<i>19-June-2019</i>	<i>Sample Reference:</i>	<i>Ref. HSB48/49</i>
<i>Laboratory Ref. Number:</i>	<i>19-16317</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.	UHPLC-MS-MS	JHG-249	% mass	3.009
Cannabigerol CBG.	UHPLC-MS-MS	JHG-249	% mass	0.025
Cannabichromene CBC.	UHPLC-MS-MS	JHG-249	% mass	0.025
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	Not Detected
Tetrahydrocannabivarin THCv	UHPLC-MS-MS	JHG-249	% mass	Not Detected
Tetrahydrocannabivarin Carboxylic acid THCv-A	UHPLC-MS-MS	JHG-249	% mass	Not Detected

Comment:

Result of Delta-9-Tetrahydrocannabinol (THC) of less than 0.002% 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.	2
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.	1

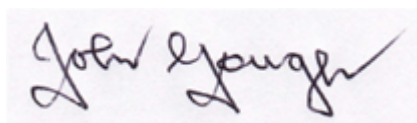
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Terpenes Analysis

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
β -Caryophellene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	22
Myrecene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	16
β -Sitosterol	GC-FID	Shimadzu HS-GC-FID	mg/kg.	14
Terpinolene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	15
A-Pinene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	11
β -Pinene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	9
Bergamotene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	3
Limonene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	2
Merolidol	GC-FID	Shimadzu HS-GC-FID	mg/kg.	2.5
Linalool	GC-FID	Shimadzu HS-GC-FID	mg/kg.	3
Humulene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	3.5
Bisabolol	GC-FID	Shimadzu HS-GC-FID	mg/kg.	5
Valencene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	4
Terpinol	GC-FID	Shimadzu HS-GC-FID	mg/kg.	5.5
Borneol	GC-FID	Shimadzu HS-GC-FID	mg/kg.	3
Delta-3-Carene	GC-FID	Shimadzu HS-GC-FID	mg/kg.	1

J.W. GOUGH



Technical Signatory.

Dated: 19th June 2019

Client: Celtic Wind Crops Ltd.
 Sample: 300mg Multi-Complex Hemp Oil
 Ref.: HSB 48/49
 Sample Date: 13.06.19
 Analysis: Cannabinoids Profile

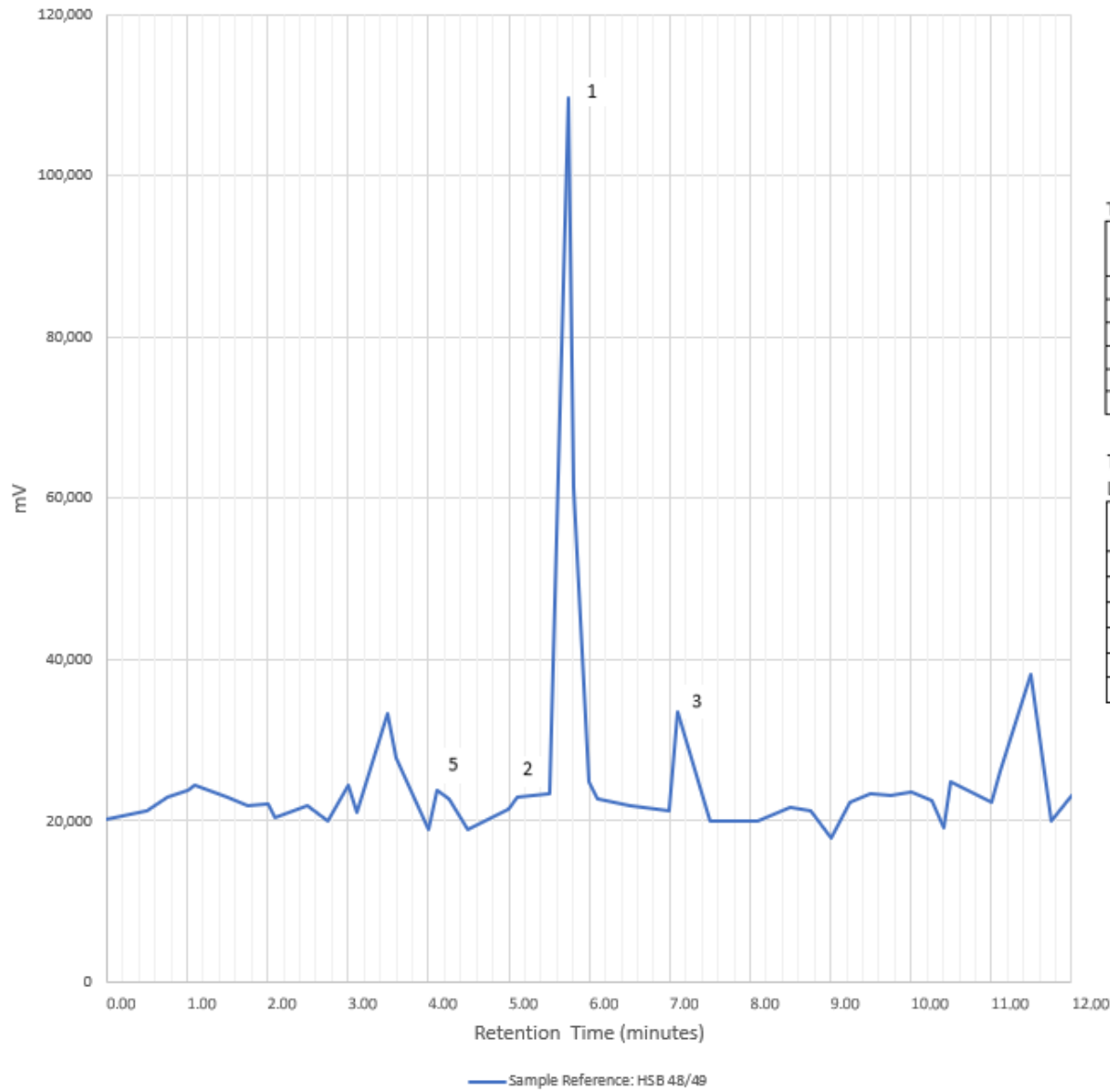


Table 1. Results

Chromatogram No.	Cannabinoid	% m/m
1	CBD	3.009
2	CBG	0.025
3	CBC	0.025
4	THC	Not Detected
5	CBD-A	0.100
6	CBG-A	Not Detected

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