

JHG ANALYTICAL SERVICES LIMITED

Unit 9 Airside

Boeing Avenue

Airport Business Park

Killowen

WATERFORD. Tel: +353 51 364103

Mob: +353 85 1379 880

Fax: +353 51 364039



TEST REPORT

REPORT NO.: 20-03-16329

*Cannagrow Biosciences Limited
Unit 7 Brickfield Lane Trading Estate
Brickfield Lane
Chandlers Ford
Southampton SO53 4DP
United Kingdom.
Attn.: Mr. David Extance*

<i>Date of Sample:</i>	<i>28-February-2020</i>	<i>Test Report Number:</i>	<i>20-03-16329</i>
<i>Date of Receipt:</i>	<i>02-March-2020</i>	<i>Sample Type:</i>	<i>CBD Hemp Oil Sample 1,500mg Tincture Sample</i>
<i>Date of Report:</i>	<i>16-March-2020</i>	<i>Sample Reference:</i>	<i>Ref. A501 B301 C601/15</i>
<i>Laboratory Ref. Number:</i>	<i>20-18529</i>	<i>Sample Presentation:</i>	<i>30mls. Dispensing Bottle</i>
		<i>Weight of sample :</i>	<i>10mls Sample Volume.</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.*

Terpenes Analysis

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
β-Caryophellene	GC-FID	Shimadzu HS-GC-FID	mg/ml.	10
Myrcene	GC-FID	Shimadzu HS-GC-FID	mg/ml.	7.65
β-Sitosterol	GC-FID	Shimadzu HS-GC-FID	mg/ml.	5.90
Terpinolene	GC-FID	Shimadzu HS-GC-FID	mg/ml.	8
Α-Pinene	GC-FID	Shimadzu HS-GC-FID	mg/ml.	9
β-Pinene	GC-FID	Shimadzu HS-GC-FID	mg/ml.	8
Bergamotene	GC-FID	Shimadzu HS-GC-FID	mg/ml.	11
Limonene	GC-FID	Shimadzu HS-GC-FID	mg/ml.	5
Merolidol	GC-FID	Shimadzu HS-GC-FID	mg/ml.	4
Linalool	GC-FID	Shimadzu HS-GC-FID	mg/ml.	6.90
Humulene	GC-FID	Shimadzu HS-GC-FID	mg/ml.	6.60
Bisabolol	GC-FID	Shimadzu HS-GC-FID	mg/ml.	5.80
Valencene	GC-FID	Shimadzu HS-GC-FID	mg/ml.	4.15
Terpineol	GC-FID	Shimadzu HS-GC-FID	mg/ml.	4.05
Borneol	GC-FID	Shimadzu HS-GC-FID	mg/ml.	2
Delta-3-Carene	GC-FID	Shimadzu HS-GC-FID	mg/ml.	1.60
(Z)- β-Ocimene	GC-FID	Shimadzu HS-GC-FID	mg/ml.	2.50
(E)- β-Tarnesol	GC-FID	Shimadzu HS-GC-FID	mg/ml.	0.35
Eremophelene	GC-FID	Shimadzu HS-GC-FID	mg/ml.	0.85
Geranyl acetate	GC-FID	Shimadzu HS-GC-FID	mg/ml.	3.35

TEST REPORT

REPORT NO.: 20-03-16329

Cannabinoid Profile Analysis

Parameter	Method of Analysis	CAS Number	Units	Reported Levels
Cannabidiol CBD.	HPLC-PDA	13956-29-1	mg/ml.	48.500
Cannabidiol acid CBD-A	HPLC-PDA	1244-58-2	mg/ml.	0.500
Cannabidivarin CBDV	HPLC-PDA	24274-48-4	mg/ml.	Not Detected
Cannabidivarinic acid CBVD-A	HPLC-PDA	31932-13-5	mg/ml.	Not Detected
Cannabigerol CBG.	HPLC-PDA	25654-31-3	mg/ml.	0.600
Cannabigerolic acid CBG-A	HPLC-PDA	25555-57-1	mg/ml.	0.125
Cannabichromene CBC.	HPLC-PDA	23978-85-0	mg/ml.	0.022
Cannabichromenic acid CBC-A	HPLC-PDA	185505-15-1	mg/ml.	0.015
Delta-8-Tetrahydrocannabinol THC.	HPLC-PDA	5957-75-5	mg/ml.	Not Detected
Delta-9-Tetrahydrocannabinol THC.	HPLC-PDA	1972-08-03	mg/ml.	Not Detected
Delta-9-Tetrahydrocannabinolic acid THC-A.	HPLC-PDA	20675-51-8	mg/ml.	Not Detected
Tetrahydrocannabivarin THCV	HPLC-PDA	31262-37-0	mg/ml.	Not Detected
Tetrahydrocannabivarin acid THCV-A	HPLC-PDA	39986-26-0	mg/ml.	Not Detected
Cannabinol CBN	HPLC-PDA	521-35-7	mg/ml.	Not Detected
Cannabinolic acid CBN-A	HPLC-PDA	2808-39-1	mg/ml.	Not Detected
Cannabicyclol CBL	HPLC-PDA	21366-63-2	mg/ml.	Not Detected

Comment:

Result of Delta-9-Tetrahydrocannabinol (THC) and Delta-9-Tetrahydrocannabinolic acid (THC-A) of less than 0.005mg/ml. 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.

TEST REPORT

REPORT NO.: 20-03-16329

Microbiological Analysis

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Staph. aureus	Pour Plate Count	APHA 9222	CFU/ml.	ND
Salmonella spp.	Pour Plate Count	APHA 9222	CFU/ml	ND
Listeria spp.	Pour Plate Count	APHA 9222	CFU/25ml.	ND
Bacillus cereus	Pour Plate Count	APHA 9222	CFU/ml.	ND
Clostridia spp.	Pour Plate Count	APHA 9222	CFU/ml.	ND
Enterobacteriaceae	Pour Plate Count	APHA 9222	CFU/ml.	ND
Esch. Coli	Pour Plate Count	APHA 9222	CFU/ml.	ND
Yeasts/Molds	Pour Plate Count	APHA 9222	CFU/ml.	3

Heavy Metals Analysis

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Mercury as Hg.	Cold Vapour AAS	EC 1881	µg/ml.	< 0.002
Chromium as Cr.	ICP-OES	EC 1881	µg/ml.	< 0.002
Arsenic as As.	ICP-OES	EC 1881	µg/ml.	< 0.0005
Cadmium as Cd.	ICP-OES	EC 1881	µg/ml.	< 0.003
Nickel as Ni.	ICP-OES	EC 1881	µg/ml.	< 0.002
Lead as Pb.	ICP-OES	EC 1881	µg/ml.	< 0.002

TEST REPORT

REPORT NO.: 20-03-16329

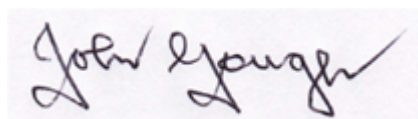
Pesticide Residues Analysis

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Organochlorine	UHPLC-MS	APHA 6630	µg/ml.	< 0.002
Organophosphorus	UHPLC-MS	APHA 6630	µg/ml.	< 0.002
Organonitrogen	UHPLC-MS	APHA 6630	µg/ml.	< 0.050
Carbamate Pesticides	UHPLC-MS	APHA 6630	µg/ml.	< 0.030
Pyrethroid Residues	UHPLC-MS	APHA 6630	µg/ml.	< 0.001
Organotin	UHPLC-MS	APHA 6630	µg/ml.	< 0.002

Aflatoxins/Ochratoxins Analysis

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Ochratoxin	HPLC-PDA	EC 401	µg/ml.	< 0.01
Aflatoxins Scan	HPLC-PDA	EC 401	µg/ml.	< 0.01
B1	HPLC-PDA	EC 401	µg/ml.	< 0.002
B2	HPLC-PDA	EC 401	µg/ml.	< 0.05
G1	HPLC-PDA	EC 401	µg/ml.	< 0.001
G2	HPLC-PDA	EC 401	µg/ml.	< 0.005

J.W. GOUGH



Technical Signatory.

Dated: 16th. March 2020