

Full Spectrum - Distillate

Batch ID:	140821196	Test ID:	T000153163
Type:	Concentrate	Submitted:	07/26/2021 @ 12:08 PM
Test:	Metals	Started:	7/28/2021
Method:	TM19 (ICP-MS)	Reported:	7/29/2021

HEAVY METALS

Analyte	Dynamic Range (ppm)	Result (ppm)
Arsenic	0.052 - 5.23	ND
Cadmium	0.044 - 4.42	ND
Mercury	0.044 - 4.38	ND
Lead	0.044 - 4.37	ND


* ND = None Detected (Defined by Dynamic Range of the method)

FINAL APPROVAL



Ryan Weems
29-Jul-2021
1:29 PM

PREPARED BY / DATE



Sam Smith
29-Jul-2021
2:07 PM

APPROVED BY / DATE

Testing results are based solely upon the sample submitted to Botanacor Laboratories, LLC, in the condition it was received. Botanacor Laboratories, LLC warrants that all analytical work is conducted professionally in accordance with all applicable standard laboratory practices using validated methods. Data was generated using an unbroken chain of comparison to NIST traceable Reference Standards and Certified Reference Materials. This report may not be reproduced, except in full, without the written approval of Botanacor Laboratories, LLC.

Prepared for:

Full Spectrum - Distillate
LOGY ESSENTIALS LLC

Batch ID or Lot Number: 140821196	Test: Residual Solvents	Reported: 7/30/21	Location: 305 W 11TH ST. BOX#4 COLUMBIA, TN 38401
Matrix: N/A	Test ID: T000153164	Started: 7/30/21	USDA License: N/A
Status: N/A	Methods: TM04 (GC-MS): Residual Solvents	Received: 07/26/2021 @ 12:08 PM	Sampler ID: N/A

RESIDUAL SOLVENTS DETERMINATION

Solvent	Dynamic Range (ppm)	Result (ppm)	Notes
Propane	85 - 1691	*ND	
Butanes (Isobutane, n-Butane)	163 - 3270	*ND	
Methanol	69 - 1373	*ND	
Pentane	95 - 1893	*ND	
Ethanol	110 - 2206	*ND	
Acetone	111 - 2228	*ND	
Isopropyl Alcohol	121 - 2416	*ND	
Hexane	7 - 131	*ND	
Ethyl Acetate	112 - 2243	*ND	
Benzene	0 - 5	*ND	
Heptanes	105 - 2098	*ND	
Toluene	21 - 411	*ND	
Xylenes (m,p,o-Xylenes)	151 - 3027	*ND	


 Karen Winternheimer
 30-Jul-21
 1:36 PM

PREPARED BY / DATE


 Ryan Weems
 30-Jul-21
 2:02 PM

APPROVED BY / DATE

Definitions

* ND = None Detected (Defined by Dynamic Range of the method)

Testing results are based solely upon the sample submitted to Botanacor Laboratories, LLC, in the condition it was received. Botanacor Laboratories, LLC warrants that all analytical work is conducted professionally in accordance with all applicable standard laboratory practices using validated methods. Data was generated using an unbroken chain of comparison to NIST traceable Reference Standards and Certified Reference Materials. This report may not be reproduced, except in full, without the written approval of Botanacor Laboratories, LLC.



Certificate #4329.02

Full Spectrum - Distillate

Batch ID:	140821196	Test ID:	T000153162
Matrix:	Concentrate	Received:	07/26/2021 @ 12:08 PM
Test:	Microbial Contaminants	Started:	7/27/2021
Method:	TM25 (qPCR) TM24, TM26, TM27, TM28 (Culture Plating)	Reported:	8/2/2021

MICROBIAL CONTAMINANTS

Contaminant	Method	LOD	LLOQ	ULOQ	Result
Total Aerobic Count*	TM-26 Culture Plating	10 ² CFU/g	10 ³ CFU/g	1.5x10 ⁵ CFU/g	None Detected
Total Coliforms*	TM-27 Culture Plating	10 ¹ CFU/g	10 ² CFU/g	1.5x10 ⁴ CFU/g	None Detected
Total Yeast and Molds*	TM-24 Culture Plating	10 ¹ CFU/g	10 ² CFU/g	1.5x10 ⁴ CFU/g	None Detected
E. coli	TM-28 Culture Plating	1 CFU/g	NA	NA	Absent
E. coli (STEC)	TM-25 PCR	1 CFU/g	NA	NA	Absent
Salmonella	TM-25 PCR	1 CFU/g	NA	NA	Absent

* Values recorded in scientific notation, a common microbial practice of expressing numbers that are too large to be conveniently written in decimal form.

Examples: 10² = 100 CFU
 10³ = 1,000 CFU
 10⁴ = 10,000 CFU
 10⁵ = 100,000 CFU

NOTES:

Free from visual mold, mildew, and foreign matter

DEFINITIONS:

CFU/g = Colony Forming Units per Gram.

LOD = Limit of Detection

ULOQ = Upper Limit of Quantitation

LLOQ = Lower Limit of Quantitation

FINAL APPROVAL

Brianne Maillot
 Brianne Maillot
 2-Aug-2021
 4:44 PM

PREPARED BY / DATE

Sarah Henning
 Sarah Henning
 2-Aug-2021
 5:05 PM

APPROVED BY / DATE

Testing results are based solely upon the sample submitted to Botanacor Laboratories, LLC, in the condition it was received. Botanacor Laboratories, LLC warrants that all analytical work is conducted professionally in accordance with all applicable standard laboratory practices using validated methods. Data was generated using an unbroken chain of comparison to NIST traceable Reference Standards and Certified Reference Materials. This report may not be reproduced, except in full, without the written approval of Botanacor Laboratories, LLC. ISO/IEC 17025:2005 Accredited A2LA Certificate Number 4329.03. Testing associated with this certificate of analysis performed by an external ISO17025 accredited provider.



Certificate #4329.03

Full Spectrum - Distillate

Batch ID:	140821196	Test ID:	T000153161
Type:	Concentrate	Submitted:	07/26/2021 @ 12:08 PM
Test:	Pesticides	Started:	7/29/2021
Method:	TM17 (UHPLC-QQQ LC MS/MS)	Reported:	8/2/2021


PESTICIDE RESIDUE

Compound	Dynamic Range (ppb)	Result (ppb)	Compound	Dynamic Range (ppb)	Result (ppb)
Acephate	41 - 2238	ND*	Malathion	253 - 2238	ND*
Acetamiprid	38 - 2238	ND*	Metalaxyl	37 - 2238	ND*
Abamectin	>278	ND*	Methiocarb	37 - 2238	ND*
Azoxystrobin	38 - 2238	ND*	Methomyl	44 - 2238	ND*
Bifenazate	39 - 2238	ND*	MGK 264 1	140 - 2238	ND*
Boscalid	36 - 2238	ND*	MGK 264 2	109 - 2238	ND*
Carbaryl	37 - 2238	ND*	Myclobutanil	39 - 2238	ND*
Carbofuran	38 - 2238	ND*	Naled	52 - 2238	ND*
Chlorantraniliprole	40 - 2238	ND*	Oxamyl	38 - 2238	ND*
Chlorpyrifos	44 - 2238	ND*	Paclobutrazol	40 - 2238	ND*
Clofentezine	245 - 2238	ND*	Permethrin	256 - 2238	ND*
Diazinon	250 - 2238	ND*	Phosmet	37 - 2238	ND*
Dichlorvos	>268	ND*	Prophos	261 - 2238	ND*
Dimethoate	39 - 2238	ND*	Propoxur	36 - 2238	ND*
E-Fenpyroximate	242 - 2238	ND*	Pyridaben	279 - 2238	ND*
Etofenprox	41 - 2238	ND*	Spinosad A	26 - 2238	ND*
Etoxazole	264 - 2238	ND*	Spinosad D	69 - 2238	ND*
Fenoxycarb	>41	ND*	Spiromesifen	>243	ND*
Fipronil	40 - 2238	ND*	Spirotetramat	>227	ND*
Flonicamid	45 - 2238	ND*	Spiroxamine 1	16 - 2238	ND*
Fludioxonil	>266	ND*	Spiroxamine 2	21 - 2238	ND*
Hexythiazox	31 - 2238	ND*	Tebuconazole	261 - 2238	ND*
Imazalil	244 - 2238	ND*	Thiacloprid	41 - 2238	ND*
Imidacloprid	46 - 2238	ND*	Thiamethoxam	39 - 2238	ND*
Kresoxim-methyl	42 - 2238	ND*	Trifloxystrobin	38 - 2238	ND*


* ND = None Detected (Defined by Dynamic Range of the method)

N/A

FINAL APPROVAL


 Taylor Brevik
 2-Aug-2021
 12:05 PM

PREPARED BY / DATE


 Sam Smith
 2-Aug-2021
 12:08 PM

APPROVED BY / DATE

Testing results are based solely upon the sample submitted to Botanacor Laboratories, LLC, in the condition it was received. Botanacor Laboratories, LLC warrants that all analytical work is conducted professionally in accordance with all applicable standard laboratory practices using validated methods. Data was generated using an unbroken chain of comparison to NIST traceable Reference Standards and Certified Reference Materials. This report may not be reproduced, except in full, without the written approval of Botanacor Laboratories, LLC.

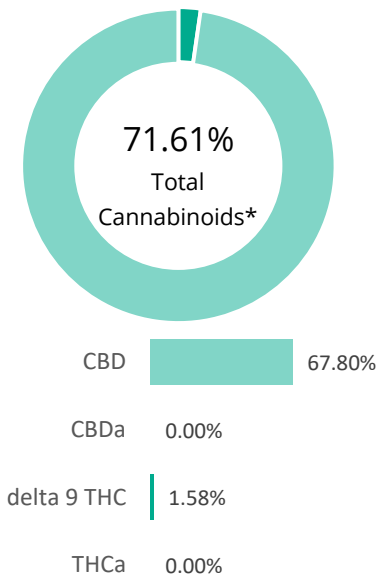


Certificate #4329.02

Full Spectrum - Distillate

Batch ID:	140821196	Test ID:	T000153160
Type:	Concentrate	Submitted:	07/26/2021 @ 12:08 PM
Test:	Potency	Started:	7/28/2021
Method:	TM14 (HPLC-DAD)	Reported:	7/29/2021

CANNABINOID PROFILE



Compound	LOQ (%)	Result (%)	Result (mg/g)
Delta 9-Tetrahydrocannabinolic acid (THCA-A)	0.15	ND	ND
Delta 9-Tetrahydrocannabinol (Delta 9THC)	0.17	1.58	15.8
Cannabidiolic acid (CBDA)	0.14	ND	ND
Cannabidiol (CBD)	0.13	67.80	678.0
Delta 8-Tetrahydrocannabinol (Delta 8THC)	0.19	0.31	3.1
Cannabinolic Acid (CBNA)	0.11	ND	ND
Cannabinol (CBN)	0.05	0.46	4.6
Cannabigerolic acid (CBGA)	0.16	ND	ND
Cannabigerol (CBG)	0.04	0.72	7.2
Tetrahydrocannabivarinic Acid (THCVA)	0.14	ND	ND
Tetrahydrocannabivarin (THCV)	0.03	ND	ND
Cannabidivarinic Acid (CBDVA)	0.06	ND	ND
Cannabidivarin (CBDV)	0.03	0.20	2.0
Cannabichromenic Acid (CBCA)	0.06	ND	ND
Cannabichromene (CBC)	0.07	0.54	5.4
Total Cannabinoids		71.61	716.1
Total Potential THC**		1.58	15.8
Total Potential CBD**		67.80	678.0

NOTES:

N/A

% = % (w/w) = Percent (Weight of Analyte / Weight of Product)

* Total Cannabinoids result reflects the absolute sum of all cannabinoids detected.

** Total Potential THC/CBD is calculated using the following formulas to take into account the loss of a carboxyl group during decarboxylation step.

$$\text{Total THC} = \text{THC} + (\text{THCa} * (0.877)) \text{ and}$$

$$\text{Total CBD} = \text{CBD} + (\text{CBDa} * (0.877))$$

ND = None Detected (Defined by Dynamic Range of the method)

FINAL APPROVAL



 Sam Smith
 29-Jul-2021
 4:57 PM



 Karen Winterheime
 29-Jul-2021
 4:58 PM

PREPARED BY / DATE

APPROVED BY / DATE

Testing results are based solely upon the sample submitted to Botanacor Laboratories, LLC, in the condition it was received. Botanacor Laboratories, LLC warrants that all analytical work is conducted professionally in accordance with all applicable standard laboratory practices using validated methods. Data was generated using an unbroken chain of comparison to NIST traceable Reference Standards and Certified Reference Materials. This report may not be reproduced, except in full, without the written approval of Botanacor Laboratories, LLC. ISO/IEC 17025:2005 Accredited A2LA Certificate Number 4329.02

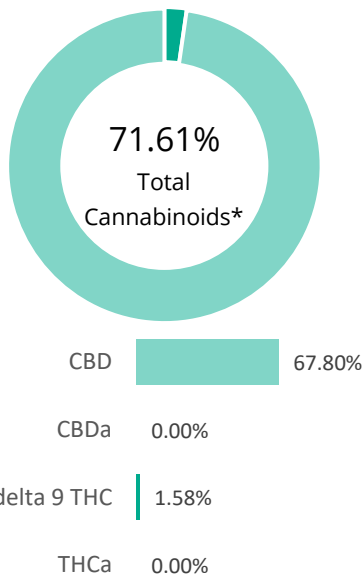


Certificate #4329.02

Full Spectrum - Distillate

Batch ID:	140821196	Test ID:	T000153160
Type:	Concentrate	Submitted:	07/26/2021 @ 12:08 PM
Test:	Potency	Started:	7/28/2021
Method:	TM14 (HPLC-DAD)	Reported:	7/29/2021

CANNABINOID PROFILE



Compound	LOQ (%)	Result (%)	Result (mg/g)
Delta 9-Tetrahydrocannabinolic acid (THCA-A)	0.15	ND	ND
Delta 9-Tetrahydrocannabinol (Delta 9THC)	0.17	1.58	15.8
Cannabidiolic acid (CBDA)	0.14	ND	ND
Cannabidiol (CBD)	0.13	67.80	678.0
Delta 8-Tetrahydrocannabinol (Delta 8THC)	0.19	0.31	3.1
Cannabinolic Acid (CBNA)	0.11	ND	ND
Cannabinol (CBN)	0.05	0.46	4.6
Cannabigerolic acid (CBGA)	0.16	ND	ND
Cannabigerol (CBG)	0.04	0.72	7.2
Tetrahydrocannabivarinic Acid (THCVA)	0.14	ND	ND
Tetrahydrocannabivarin (THCV)	0.03	ND	ND
Cannabidivarinic Acid (CBDVA)	0.06	ND	ND
Cannabidivarin (CBDV)	0.03	0.20	2.0
Cannabichromenic Acid (CBCA)	0.06	ND	ND
Cannabichromene (CBC)	0.07	0.54	5.4
Total Cannabinoids		71.61	716.1
Total Potential THC**		1.58	15.8
Total Potential CBD**		67.80	678.0

NOTES:

N/A

% = % (w/w) = Percent (Weight of Analyte / Weight of Product)

* Total Cannabinoids result reflects the absolute sum of all cannabinoids detected.



** Total Potential THC/CBD is calculated using the following formulas to take into account the loss of a carboxyl group during decarboxylation step.

Total THC = THC + (THCa *(0.877)) and

Total CBD = CBD + (CBDA *(0.877))

ND = None Detected (Defined by Dynamic Range of the method)

FINAL APPROVAL

 Sam Smith 29-Jul-2021 4:57 PM	 Karen Winterheime 29-Jul-2021 4:58 PM
PREPARED BY / DATE	APPROVED BY / DATE

Testing results are based solely upon the sample submitted to Botanacor Laboratories, LLC, in the condition it was received. Botanacor Laboratories, LLC warrants that all analytical work is conducted professionally in accordance with all applicable standard laboratory practices using validated methods. Data was generated using an unbroken chain of comparison to NIST traceable Reference Standards and Certified Reference Materials. This report may not be reproduced, except in full, without the written approval of Botanacor Laboratories, LLC. ISO/IEC 17025:2005 Accredited A2LA Certificate Number 4329.02



Certificate #4329.02