



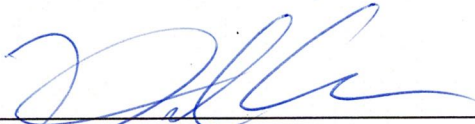
# STRAIGHT HEMP


## CERTIFICATE OF ANALYSIS

PRODUCT: Full Spectrum Hemp Oil  
BATCH/LOT: ND201009  
INGREDIENTS: Organic Hemp Seed Oil, Full Spectrum Hemp Extract  
ADDITIVES: none  
EXCIPIENTS: none

PRODUCTION DATE: 10/2020  
EXPIRATION DATE: 10/2022

TEST	METHOD	SPECIFICATION	RESULTS
Strength & Composition			
Identity	Organoleptic	Conforming	PASS
Identity	UPLC/UV	Chemical Fingerprint	PASS
Total Cannabidiol (CBD) <sup>i</sup>	UPLC/UV	36.8 – 40.8 mg/g	41.3 mg/g <sup>ii</sup>
Total Tetrahydrocannabinol (THC) <sup>iii</sup>	UPLC/UV	NMT 0.30%	0.15%
Terpene assay <sup>iv</sup>	HS-GC/MS	n/e	5,280 ppm
Microbiological <sup>v</sup>			
Total Plate Count	USP 42	NMT 1,000 cfu/ml	PASS
Total Yeast & Mold	USP 42	NMT 100 cfu/ml	PASS
<i>E. coli</i>	USP 42	Absent	PASS
<i>Salmonella</i>	USP 42	Absent	PASS
Heavy Metals <sup>vi</sup>			
Arsenic (As)	ICP/MS	NMT 1.0 ppm	PASS
Cadmium (Cd)	ICP/MS	NMT 0.5 ppm	PASS
Lead (Pb)	ICP/MS	NMT 1.0 ppm	PASS
Mercury (Hg)	ICP/MS	NMT 0.1 ppm	PASS
Residual Solvents			
Multi-residue panel	GC-HS-MSD	Below MRL <sup>vii</sup>	PASS
Pesticides			
Multi-residue panel	UPLC-MS/MS	Below MRL	PASS

  
David Cole  
Director of Quality

  
Date

<sup>i</sup> Total CBD = CBD + (0.877\*CBDA) to account for loss of acid group during decarboxylation

<sup>ii</sup> Corresponds to **38.1mg/ml**

<sup>iii</sup> Total THC = THC + (0.877\*THCA) to account for loss of acid group during decarboxylation

<sup>iv</sup> Sum of terpene assay (n=22)

<sup>v</sup> Microbiological limits based on USP, WHO, and/or NSF/ANSI

<sup>vi</sup> Limits for As and Pb set below CA Prop 65 *no significant risk level*; Cd and Hg set below USP permitted daily exposure for 110lb body weight. Complies with 1 CCR 212-3

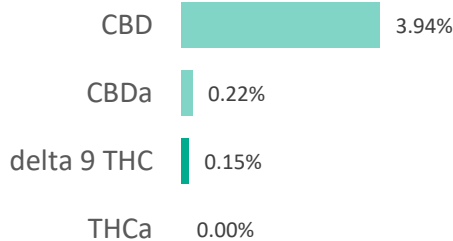
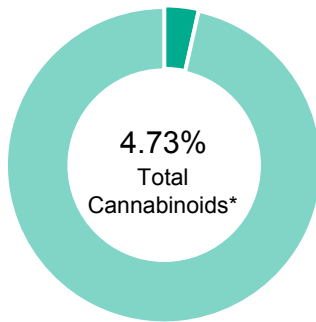
<sup>vii</sup> 11 solvent panel: Propane, Butane, Pentane, Ethanol, Acetone, Isopropyl Alcohol, Hexane, Benzene, Heptanes, Toluene, Xylenes

NMT = Not More Than

MRL = Method Reporting Limit  
n/e = not established

**Full Spectrum Hemp Oil**

<b>Batch ID:</b>	ND201009	<b>Test ID:</b>	T000103262
<b>Type:</b>	Concentrate	<b>Submitted:</b>	10/14/2020 @ 04:52 PM
<b>Test:</b>	Potency	<b>Started:</b>	10/15/2020
<b>Method:</b>	TM14	<b>Reported:</b>	10/16/2020

**CANNABINOID PROFILE**




Compound	LOQ (%)	Result (%)	Result (mg/g)
Delta 9-Tetrahydrocannabinolic acid (THCA-A)	0.02	ND	ND
Delta 9-Tetrahydrocannabinol (Delta 9THC)	0.01	0.15	1.5
Cannabidiolic acid (CBDA)	0.01	0.22	2.2
Cannabidiol (CBD)	0.02	3.94	39.4
Delta 8-Tetrahydrocannabinol (Delta 8THC)	0.01	ND	ND
Cannabinolic Acid (CBNA)	0.03	ND	ND
Cannabinol (CBN)	0.01	ND	ND
Cannabigerolic acid (CBGA)	0.02	ND	ND
Cannabigerol (CBG)	0.01	0.11	1.1
Tetrahydrocannabivarinic Acid (THCVA)	0.02	ND	ND
Tetrahydrocannabivarin (THCV)	0.01	ND	ND
Cannabidivarinic Acid (CBDVA)	0.01	ND	ND
Cannabidivarin (CBDV)	0.00	0.02	0.2
Cannabichromenic Acid (CBCA)	0.02	ND	ND
Cannabichromene (CBC)	0.02	0.29	2.9
<b>Total Cannabinoids</b>		<b>4.73</b>	<b>47.3</b>
<b>Total Potential THC**</b>		<b>0.15</b>	<b>1.5</b>
<b>Total Potential CBD**</b>		<b>4.13</b>	<b>41.3</b>

**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**

 Mara Miller 16-Oct-2020 12:16 PM	 Greg Zimpfer 16-Oct-2020 1:59 PM
PREPARED BY / DATE	APPROVED BY / DATE

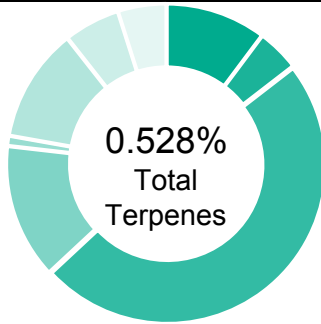
Testing results are based solely upon the sample submitted to Botanacor Laboratories, LLC, in the condition it was received. Botanacor Laboratories, LLC warrants that all analytical work is conducted professionally in accordance with all applicable standard laboratory practices using validated methods. 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



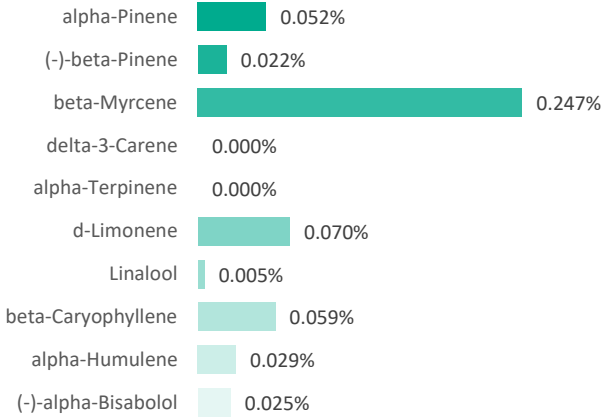
Certificate #4329.02

**Full Spectrum Hemp Oil**



<b>Batch ID:</b>	ND201009	<b>Test ID:</b>	T000103265
<b>Type:</b>	Concentrate	<b>Submitted:</b>	10/14/2020 @ 04:52 PM
<b>Test:</b>	Terpenes	<b>Started:</b>	10/15/2020
<b>Method:</b>	TM10	<b>Reported:</b>	10/20/2020

**TERPENE PROFILE**


Compound	%(w/w)	mg/g
(-)-alpha-Bisabolol	0.025	0.25
Camphene	0.000	0
delta-3-Carene	0.000	0
beta-Caryophyllene	0.059	0.59
(-)-Caryophyllene Oxide	0.005	0.05
p-Cymene	0.000	0
Eucalyptol	0.005	0.05
Geraniol	0.000	0
alpha-Humulene	0.029	0.29
(-)-Isopulegol	0.000	0
d-Limonene	0.070	0.7
Linalool	0.005	0.05
beta-Myrcene	0.247	2.47
cis-Nerolidol	0.000	0
trans-Nerolidol	0.004	0.04
Ocimene	0.000	0
beta-Ocimene	0.000	0
alpha-Pinene	0.052	0.52
(-)-beta-Pinene	0.022	0.22
alpha-Terpinene	0.000	0
gamma-Terpinene	0.001	0.01
Terpinolene	0.004	0.04
	<b>0.528%</b>	<b>5.28</b>

**PREDOMINANT TERPENES**

 NOTES:  
 0

**FINAL APPROVAL**

 Daniel Weidensaul 20-Oct-2020 11:19 AM	 Greg Zimpfer 20-Oct-2020 3:10 PM
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PREPARED BY / DATE

APPROVED BY / DATE

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## Full Spectrum Hemp Oil


<b>Batch ID:</b>	ND201009	<b>Test ID:</b>	T000103267
<b>Type:</b>	Other	<b>Submitted:</b>	10/14/2020 @ 04:52 PM
<b>Test:</b>	Metals	<b>Started:</b>	10/19/2020
<b>Method:</b>	TM19	<b>Reported:</b>	10/20/2020

## HEAVY METALS


Analyte	Dynamic Range (ppm)	Result (ppm)
Arsenic	0.074 - 7.42	ND
Cadmium	0.071 - 7.08	ND
Mercury	0.070 - 7.03	ND
Lead	0.075 - 7.53	ND

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

## FINAL APPROVAL

  
Ryan Weems  
20-Oct-2020  
2:38 PM

PREPARED BY / DATE

  
Ben Minton  
20-Oct-2020  
4:24 PM

APPROVED BY / DATE

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prepared for: STRAIGHT HEMP

5135 W 58TH AVE, UNIT 5  
ARVADA, CO 80002

## Full Spectrum Hemp Oil

<b>Batch ID:</b>	ND201009	<b>Test ID:</b>	T000103264
<b>Type:</b>	Concentrate	<b>Submitted:</b>	10/14/2020 @ 04:52 PM
<b>Test:</b>	Residual Solvents	<b>Started:</b>	10/19/2020
<b>Method:</b>	TM04	<b>Reported:</b>	10/19/2020


## RESIDUAL SOLVENTS

Solvent	Dynamic Range (ppm)	Result (ppm)
Propane	88 - 1752	*ND
Butanes (Isobutane, n-Butane)	171 - 3423	*ND
Methanol	55 - 1105	*ND
Pentane	89 - 1785	*ND
Ethanol	88 - 1753	*ND
Acetone	91 - 1813	*ND
Isopropyl Alcohol	96 - 1916	*ND
Hexane	5 - 110	*ND
Ethyl Acetate	90 - 1807	*ND
Benzene	0.2 - 3.6	*ND
Heptanes	88 - 1768	*ND
Toluene	16 - 323	*ND
Xylenes (m,p,o-Xylenes)	117 - 2335	*ND

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

NOTES:  
N/A

## FINAL APPROVAL

  
Ryan Weems  
19-Oct-2020  
5:31 PM  
PREPARED BY / DATE  
Greg Zimpfer  
19-Oct-2020  
7:12 PM  
APPROVED BY / DATE

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## Full Spectrum Hemp Oil

<b>Batch ID:</b>	ND201009	<b>Test ID:</b>	T000103266
<b>Type:</b>	Concentrate	<b>Submitted:</b>	10/14/2020 @ 04:52 PM
<b>Test:</b>	Pesticides	<b>Started:</b>	10/19/2020
<b>Method:</b>		<b>Reported:</b>	10/20/2020


## PESTICIDE RESIDUE


Compound	Dynamic Range (ppb)	Result (ppb)	Compound	Dynamic Range (ppb)	Result (ppb)
Acephate	37 - 2278	ND*	Malathion	272 - 2278	ND*
Acetamiprid	37 - 2278	ND*	Metalaxyl	43 - 2278	ND*
Abamectin	>303	ND*	Methiocarb	39 - 2278	ND*
Azoxystrobin	45 - 2278	ND*	Methomyl	39 - 2278	ND*
Bifenazate	42 - 2278	ND*	MGK 264 1	137 - 2278	ND*
Boscalid	46 - 2278	ND*	MGK 264 2	106 - 2278	ND*
Carbaryl	38 - 2278	ND*	Myclobutanil	40 - 2278	ND*
Carbofuran	38 - 2278	ND*	Naled	45 - 2278	ND*
Chlorantraniliprole	48 - 2278	ND*	Oxamyl	36 - 2278	ND*
Chlorpyrifos	37 - 2278	ND*	Paclobutrazol	40 - 2278	ND*
Clofentezine	265 - 2278	ND*	Permethrin	241 - 2278	ND*
Diazinon	265 - 2278	ND*	Phosmet	44 - 2278	ND*
Dichlorvos	>261	ND*	Prophos	274 - 2278	ND*
Dimethoate	36 - 2278	ND*	Propoxur	39 - 2278	ND*
E-Fenpyroximate	253 - 2278	ND*	Pyridaben	272 - 2278	ND*
Etofenprox	38 - 2278	ND*	Spinosad A	25 - 2278	ND*
Etoxazole	268 - 2278	ND*	Spinosad D	74 - 2278	ND*
Fenoxycarb	>41	ND*	Spiromesifen	>244	ND*
Fipronil	50 - 2278	ND*	Spirotetramat	>292	ND*
Flonicamid	43 - 2278	ND*	Spiroxamine 1	16 - 2278	ND*
Fludioxonil	>272	ND*	Spiroxamine 2	22 - 2278	ND*
Hexythiazox	36 - 2278	ND*	Tebuconazole	285 - 2278	ND*
Imazalil	262 - 2278	ND*	Thiacloprid	36 - 2278	ND*
Imidacloprid	36 - 2278	ND*	Thiamethoxam	34 - 2278	ND*
Kresoxim-methyl	43 - 2278	ND*	Trifloxystrobin	40 - 2278	ND*

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

N/A

## FINAL APPROVAL


 Sam Smith  
 20-Oct-2020  
 2:30 PM


 Ben Minton  
 20-Oct-2020  
 4:32 PM

PREPARED BY / DATE

APPROVED BY / DATE

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## Certificate of Analysis

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 5135 W. 58<sup>th</sup> Ave, Ste 5  
 Arvada, CO 80002  
 Phone: 970-214-7814

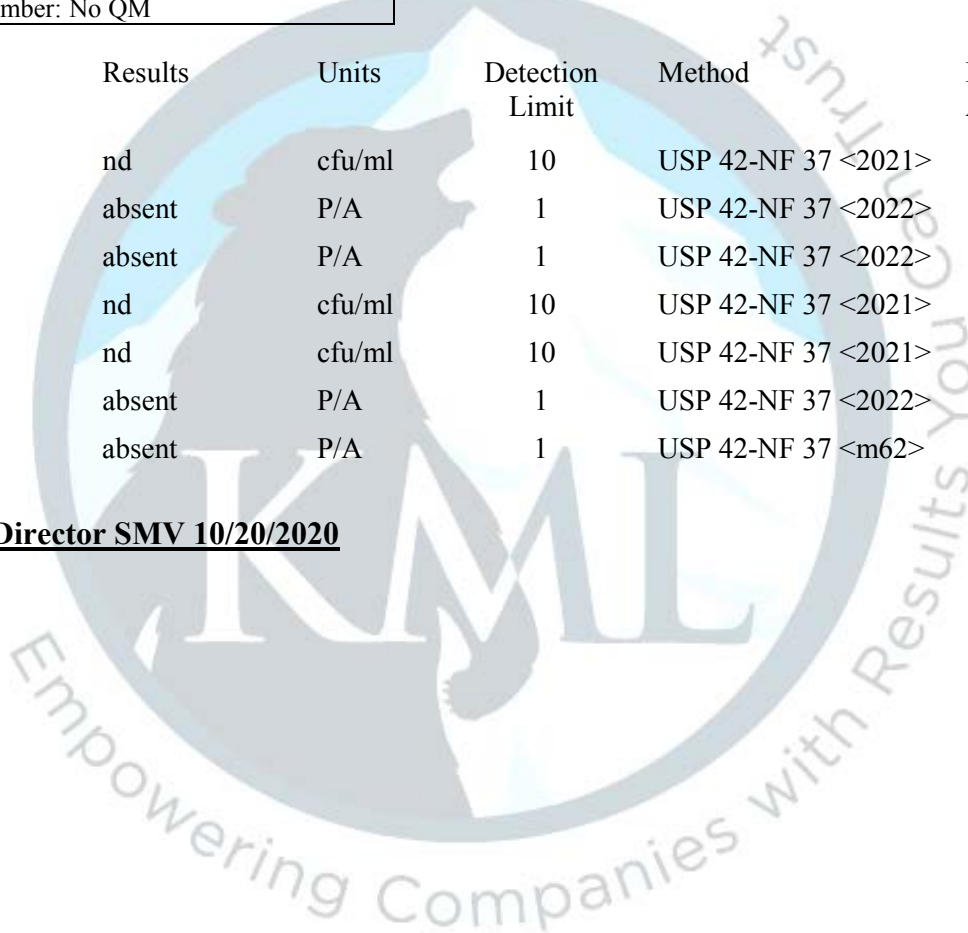
Invoice Number: 20.1552  
 PO Number:  
 Received Date: 10/15/2020  
 Number of Samples: 02  
 Project Name: Routine Testing

### Microbiology Report:

Lab #: 20-9672	Sample Lot: ND201009	Sample Date:
Sample Name: Full Spectrum Hemp Oil	Additional ID:	Plated Date: 10/15/2020
Qualifying Material Number: No QM		

Test Performed	Results	Units	Detection Limit	Method	Date Analyzed
Aerobic Plate Count	nd	cfu/ml	10	USP 42-NF 37 <2021>	10/18/2020
<i>E. coli</i>	absent	P/A	1	USP 42-NF 37 <2022>	10/18/2020
<i>Staph aureus</i>	absent	P/A	1	USP 42-NF 37 <2022>	10/18/2020
Yeast	nd	cfu/ml	10	USP 42-NF 37 <2021>	10/20/2020
Mold	nd	cfu/ml	10	USP 42-NF 37 <2021>	10/20/2020
Salmonella	absent	P/A	1	USP 42-NF 37 <2022>	10/19/2020
<i>Pseudo. aeruginosa</i>	absent	P/A	1	USP 42-NF 37 <m62>	10/18/2020

**Approved By: QA Director SMV 10/20/2020**



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## Certificate of Analysis

Straight Hemp  
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 Arvada, CO 80002  
 Phone: 970-214-7814

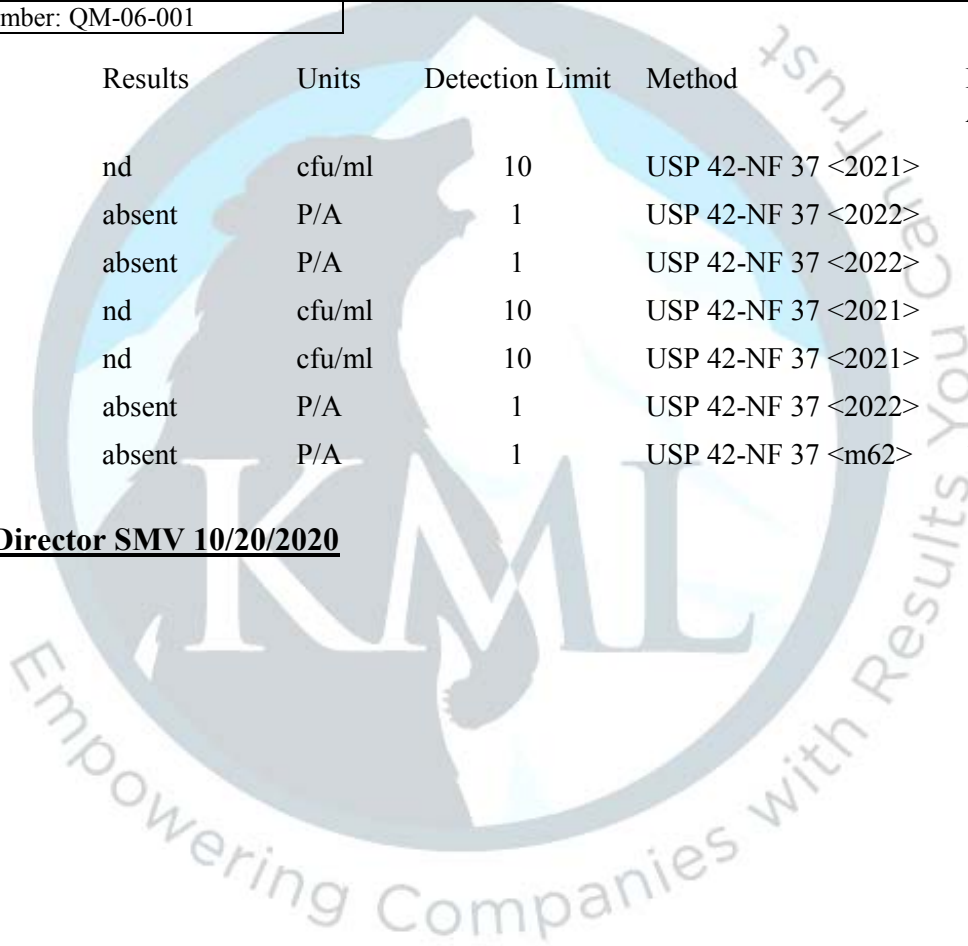
Invoice Number: 20.1552  
 PO Number:  
 Received Date: 10/15/2020  
 Number of Samples: 02  
 Project Name: Routine Testing

### Microbiology Report:

Lab #: Control 10152020	Additional ID: Negative Control Purposes	Plated Date: 10/15/2020
Sample Name: Control 10152020		
Qualifying Material Number: QM-06-001		

Test Performed	Results	Units	Detection Limit	Method	Date Analyzed
Aerobic Plate Count	nd	cfu/ml	10	USP 42-NF 37 <2021>	10/18/2020
<i>E. coli</i>	absent	P/A	1	USP 42-NF 37 <2022>	10/18/2020
<i>Staph aureus</i>	absent	P/A	1	USP 42-NF 37 <2022>	10/18/2020
Yeast	nd	cfu/ml	10	USP 42-NF 37 <2021>	10/20/2020
Mold	nd	cfu/ml	10	USP 42-NF 37 <2021>	10/20/2020
Salmonella	absent	P/A	1	USP 42-NF 37 <2022>	10/19/2020
<i>Pseudo. aeruginosa</i>	absent	P/A	1	USP 42-NF 37 <m62>	10/18/2020

**Approved By: QA Director SMV 10/20/2020**



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