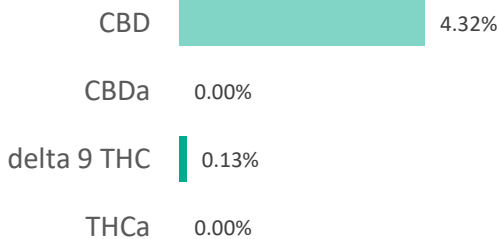


HL-WS1500 LOT: 2000035

Batch ID:	PJ-6079	Test ID:	2441923.002
Reported:	29-Apr-2020	Method:	TM14
Type:	Solution		
Test:	Potency		

CANNABINOID PROFILE



Compound	LOQ (mg/mL)	Result (mg/mL)	Result (mg/g)
Delta 9-Tetrahydrocannabinolic acid (THCA-A)	0.69	ND	ND
Delta 9-Tetrahydrocannabinol (Delta 9THC)	0.35	1.60	1.3
Cannabidiolic acid (CBDA)	0.59	ND	ND
Cannabidiol (CBD)	0.33	54.00	43.2
Delta 8-Tetrahydrocannabinol (Delta 8THC)	0.38	ND	ND
Cannabinolic Acid (CBNA)	0.95	ND	ND
Cannabinol (CBN)	0.42	ND	ND
Cannabigerolic acid (CBGA)	0.61	ND	ND
Cannabigerol (CBG)	0.34	0.60	0.4
Tetrahydrocannabivarinic Acid (THCVA)	0.60	ND	ND
Tetrahydrocannabivarin (THCV)	0.31	ND	ND
Cannabidivarinic Acid (CBDVA)	0.55	ND	ND
Cannabidivarin (CBDV)	0.30	ND	ND
Cannabichromenic Acid (CBCA)	0.52	ND	ND
Cannabichromene (CBC)	0.63	1.70	1.3
Total Cannabinoids		57.90	46.30
Total Potential THC**		1.60	1.31
Total Potential CBD**		54.00	43.23

NOTES:


Density = 1.25g/mL

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


Michelle Gagnon
 29-Apr-2020
 5:32 PM



Greg Zimpfer
 29-Apr-2020
 6:01 PM

PREPARED BY / DATE

APPROVED BY / DATE

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Certificate #4329.02

HL-WS1500

Batch ID:	2000035	Test ID:	T000072096
Reported:	23-Apr-2020	Method:	Concentrate - Test Methods: TM05, TM06
Type:	Concentrate		
Test:	Microbial Contaminants		

MICROBIAL CONTAMINANTS

Contaminant	Result (CFU/g)*
Total Aerobic Count**	None Detected
Total Coliforms**	None Detected
Total Yeast and Molds**	None Detected
<i>E. coli</i>	None Detected
<i>Salmonella</i>	None Detected

* CFU/g = Colony Forming Unit per Gram

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

Examples: $10^2 = 100$ CFU
 $10^3 = 1,000$ CFU
 $10^4 = 10,000$ CFU
 $10^5 = 100,000$ CFU

NOTES:


Free from visual mold, mildew, and foreign matter


TYM: None Detected

Total Aerobic: None Detected

Coliforms: None Detected

FINAL APPROVAL


Nick Tumminaro
23-Apr-2020
1:34 PM


Ben Minton
23-Apr-2020
4:48 PM

PREPARED BY / DATE

APPROVED BY / DATE

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Certificate #4329.03

HL-WS1500


Batch ID:	2000035	Test ID:	T000072097
Reported:	22-Apr-2020	Method:	TM19
Type:	Other		
Test:	Metals		

HEAVY METALS

Analyte	Dynmic Range (ppm)	Result (ppm)
Arsenic	0.073 - 7.27	ND
Cadmium	0.065 - 6.54	ND
Mercury	0.072 - 7.18	ND
Lead	0.062 - 6.25	ND


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

FINAL APPROVAL



Alex Benson
22-Apr-2020
11:05 AM

PREPARED BY / DATE



Greg Zimpfer
22-Apr-2020
2:57 PM

APPROVED BY / DATE

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Organic CBD Oil Concentrate

Batch ID:	O-CO2-YP5-05620-B1	Test ID:	T000069113
Reported:	29-Mar-2020	Method:	Concentrate - Test Methods: TM05, TM06
Type:	Concentrate		
Test:	Microbial Contaminants		

MICROBIAL CONTAMINANTS

Contaminant	Result (CFU/g)*
Total Aerobic Count**	None Detected
Total Coliforms**	None Detected
Total Yeast and Molds**	None Detected
<i>E. coli</i>	None Detected
<i>Salmonella</i>	None Detected

* CFU/g = Colony Forming Unit per Gram

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

Examples: $10^2 = 100$ CFU
 $10^3 = 1,000$ CFU
 $10^4 = 10,000$ CFU
 $10^5 = 100,000$ CFU

NOTES:


Free from visual mold, mildew, and foreign matter

TYM: None Detected

Total Aerobic: None Detected

Coliforms: None Detected

FINAL APPROVAL



Nick Tumminaro
29-Mar-2020
2:45 PM



Mike Branvold
29-Mar-2020
8:36 PM

PREPARED BY / DATE

APPROVED BY / DATE

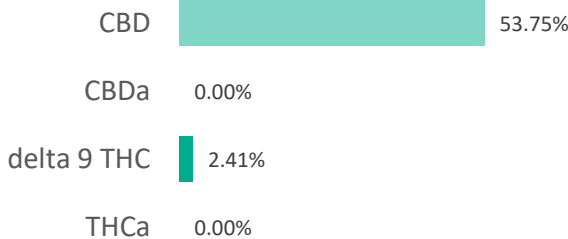
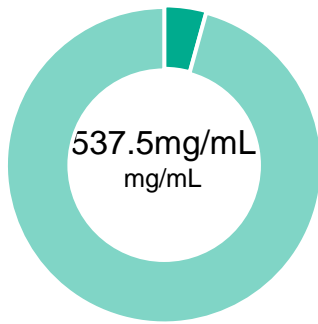
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Certificate #4329.03

Organic CBD Oil Concentrate

Batch ID:	O-CO2-YP5-05620-B1	Test ID:	5238630.0021
Reported:	30-Mar-2020	Method:	TM14
Type:	Solution		
Test:	Potency		

CANNABINOID PROFILE


Compound	LOQ (mg/mL)	Result (mg/mL)	Result (mg/g)
Delta 9-Tetrahydrocannabinolic acid (THCA-A)	2.70	ND	ND
Delta 9-Tetrahydrocannabinol (Delta 9THC)	1.35	24.10	24.1
Cannabidiolic acid (CBDA)	1.35	ND	ND
Cannabidiol (CBD)	0.75	537.50	537.5
Delta 8-Tetrahydrocannabinol (Delta 8THC)	1.48	ND	ND
Cannabinolic Acid (CBNA)	3.71	ND	ND
Cannabinol (CBN)	1.64	ND	ND
Cannabigerolic acid (CBGA)	2.36	ND	ND
Cannabigerol (CBG)	1.33	6.10	6.1
Tetrahydrocannabivarinic Acid (THCVA)	2.32	ND	ND
Tetrahydrocannabivarin (THCV)	1.21	ND	ND
Cannabidivarinic Acid (CBDVA)	1.25	ND	ND
Cannabidivarin (CBDV)	0.69	ND	ND
Cannabichromenic Acid (CBCA)	2.03	ND	ND
Cannabichromene (CBC)	2.44	16.00	16.0
Total Cannabinoids		583.70	583.68
Total Potential THC**		24.10	24.08
Total Potential CBD**		537.50	537.50

NOTES:

Density = 1g/mL

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

Tyler Wiese
 Tyler Wiese
 30-Mar-2020
 4:58 PM

Ben Minton
 Ben Minton
 30-Mar-2020
 5:25 PM

PREPARED BY / DATE

APPROVED BY / DATE

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Certificate #4329.02

Organic CBD Oil Concentrate

Batch ID:	O-CO2-YP5-05620-B1	Test ID:	T000069112
Reported:	31-Mar-2020	Method:	TM04
Type:	Concentrate		
Test:	Residual Solvents		

RESIDUAL SOLVENTS


Solvent	Dynamic Range (ppm)	Result (ppm)
Propane	75 - 1508	*ND
Butanes (Isobutane, n-Butane)	145 - 2898	*ND
Methanol	51 - 1015	*ND
Pentane	78 - 1565	*ND
Ethanol	77 - 1546	*ND
Acetone	83 - 1665	*ND
Isopropyl Alcohol	87 - 1742	*ND
Hexane	5 - 102	*ND
Ethyl Acetate	83 - 1667	*ND
Benzene	0.2 - 3.3	*ND
Heptanes	80 - 1600	*ND
Toluene	15 - 301	*ND
Xylenes (m,p,o-Xylenes)	108 - 2168	*ND

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

NOTES:
N/A

FINAL APPROVAL


 Ryan Weems
 31-Mar-2020
 4:27 PM
 PREPARED BY / DATE


 Greg Zimpfer
 31-Mar-2020
 6:43 PM
 APPROVED BY / DATE

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Certificate #4329.02


Organic CBD Oil Concentrate

Batch ID:	O-CO2-YP5-05620-B1	Test ID:	T000069115
Reported:	3-Apr-2020	Method:	TM19
Type:	Concentrate		
Test:	Metals		

HEAVY METALS


Analyte	Dynmic Range (ppm)	Result (ppm)
Arsenic	0.071 - 7.10	ND
Cadmium	0.069 - 6.90	ND
Mercury	0.122 - 12.20	ND
Lead	0.190 - 19.00	ND

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

FINAL APPROVAL

Chris Jungling
3-Apr-2020
9:09 AM

PREPARED BY / DATE



Greg Zimpfer
3-Apr-2020
10:12 AM

APPROVED BY / DATE

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Organic CBD Oil Concentrate

Batch ID:	O-CO2-YP5-05620-B1	Test ID:	2103819.0016
Reported:	1-Apr-2020	Method:	TM17
Type:	Concentrate		
Test:	Pesticides		


PESTICIDE RESIDUE


Compound	Dynamic Range (ppb)	Result (ppb)	Compound	Dynamic Range (ppb)	Result (ppb)
Acephate	58 - 2663	ND*	Malathion	345 - 2663	ND*
Acetamiprid	58 - 2663	ND*	Metalaxyl	58 - 2663	ND*
Abamectin	>345	ND*	Methiocarb	58 - 2663	ND*
Azoxystrobin	58 - 2663	ND*	Methomyl	58 - 2663	ND*
Bifenazate	58 - 2663	ND*	MGK 264 1	345 - 2663	ND*
Boscalid	58 - 2663	ND*	MGK 264 2	345 - 2663	ND*
Carbaryl	58 - 2663	ND*	Myclobutanil	58 - 2663	ND*
Carbofuran	58 - 2663	ND*	Naled	58 - 2663	ND*
Chlorantraniliprole	58 - 2663	ND*	Oxamyl	58 - 2663	ND*
Chlorpyrifos	58 - 2663	ND*	Paclobutrazol	58 - 2663	ND*
Clofentezine	345 - 2663	ND*	Permethrin	345 - 2663	ND*
Diazinon	345 - 2663	ND*	Phosmet	58 - 2663	ND*
Dichlorvos	>345	ND*	Prophos	345 - 2663	ND*
Dimethoate	58 - 2663	ND*	Propoxur	58 - 2663	ND*
E-Fenpyroximate	58 - 2663	ND*	Pyridaben	58 - 2663	ND*
Etofenprox	58 - 2663	ND*	Spinosad A	58 - 2663	ND*
Etoxazole	345 - 2663	ND*	Spinosad D	345 - 2663	ND*
Fenoxycarb	>58	ND*	Spiromesifen	>345	ND*
Fipronil	58 - 2663	ND*	Spirotetramat	>345	ND*
Flonicamid	58 - 2663	ND*	Spiroxamine 1	58 - 2663	ND*
Fludioxonil	>345	ND*	Spiroxamine 2	58 - 2663	ND*
Hexythiazox	58 - 2663	ND*	Tebuconazole	345 - 2663	ND*
Imazalil	345 - 2663	ND*	Thiacloprid	58 - 2663	ND*
Imidacloprid	58 - 2663	ND*	Thiamethoxam	58 - 2663	ND*
Kresoxim-methyl	58 - 2663	ND*	Trifloxystrobin	58 - 2663	ND*

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

N/A

FINAL APPROVAL

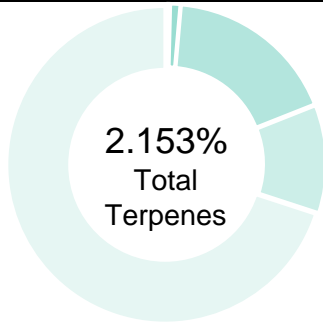

 Tyler Wiese
 1-Apr-2020
 3:38 PM
 PREPARED BY / DATE


 Greg Zimpfer
 1-Apr-2020
 4:36 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.

CBD Oil Concentrate

Batch ID:	O-CO2-YP5-05620-B1	Test ID:	1074674.0012
Reported:	27-Apr-2020	Method:	TM10
Type:	Concentrate		
Test:	Terpenes		

TERPENE PROFILE




Compound	%(w/w)	mg/g
(-)-alpha-Bisabolol	1.466	14.66
Camphene	N/A	N/A
delta-3-Carene	0.000	0
beta-Caryophyllene	0.369	3.69
(-)-Caryophyllene Oxide	0.000	0
p-Cymene	0.000	0
Eucalyptol	0.010	0.1
Geraniol	0.000	0
alpha-Humulene	0.231	2.31
(-)-Isopulegol	0.000	0
d-Limonene	0.002	0.02
Linalool	0.021	0.21
beta-Myrcene	0.003	0.03
cis-Nerolidol	0.000	0
trans-Nerolidol	0.043	0.43
Ocimene	0.000	0
beta-Ocimene	0.000	0
alpha-Pinene	0.000	0
(-)-beta-Pinene	0.000	0
alpha-Terpinene	0.003	0.03
gamma-Terpinene	0.004	0.04
Terpinolene	0.001	0.01
	2.153%	21.53

PREDOMINANT TERPENES

alpha-Pinene	0.000%
(-)-beta-Pinene	0.000%
beta-Myrcene	0.003%
delta-3-Carene	0.000%
alpha-Terpinene	0.003%
d-Limonene	0.002%
Linalool	0.021%
beta-Caryophyllene	0.369%
alpha-Humulene	0.231%
(-)-alpha-Bisabolol	1.466%

 NOTES:
 0

FINAL APPROVAL

 Michelle Gagnon 27-Apr-2020 1:33 PM	 Greg Zimpfer 27-Apr-2020 8:34 PM
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PREPARED BY / DATE

APPROVED BY / DATE

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