# CERTIFICATE OF ANALYSIS

PRODUCT NAME: PRODUCT STRENGTH: LOT NUMBER: BEST BY DATE: HEMP EXTRACT LOT

CBD Tincture - Natural
1350 mg
191218G
06/21
111919

# \*Click on the links to view third-party reports\*

Test	Method	Specification	Results
Color	SOP-100	Golden to Amber	PASS
Odor	SOP-100	Characteristic - Olive and hemp	PASS
Appearance	SOP-100	Golden to Amber oil in brown glass bottle with dropper	PASS
Primary Package Eval.	SOP-132	Container clean and free of filth. Container caps tight and shrink bands intact	PASS
Secondary Package Eval.	SOP-132	Labeling Compliance Checked, Cartons sturdy and clean. Sufficient cushion material exists. Box taped and secure.	PASS

#### Physical Atttributes

#### Review of Third-Party Analysis

Panel	Method	Specification	Results	Pass/Fail
Potency - Total CBD	SOP-111	1282.5-1687.5 mg CBD LOQ*: 10 PPM† (0.001%)	<u>1468.4 mg</u>	PASS
Potency - D9-THC	SOP-111	None Detected LOQ: 10 PPM (0.001%)	ND	PASS
FL Compliant Pesticide Panel	SOP-111	Florida State Hemp Program Rule 5B-57.014: Action Limits for Pesticides	ND	PASS
Microbial - Stec E.Coli	SOP-111	Complies with USP 61/62	<u><loq< u=""></loq<></u>	PASS
Microbial - Salmonella	SOP-111	Complies with USP 61/62	<loq< td=""><td>PASS</td></loq<>	PASS
Microbial - Aspergillus	SOP-111	Complies with USP 61/62	<loq< td=""><td>PASS</td></loq<>	PASS
CA Compliant Heavy Metal Panel	SOP-111	Arsenic (As): ≤1.5 PPM Cadmium (Cd): ≤0.5 PPM Mercury (Hg): ≤1.0 PPM Lead (Pb): ≤0.5 PPM	<u><loq< u=""></loq<></u>	PASS

\* Level of Quantitation, † Parts Per Million

Quality Certified by:

Darcie Moran

1/17/2020

Date

Darcie Moran Director of Quality Assurance

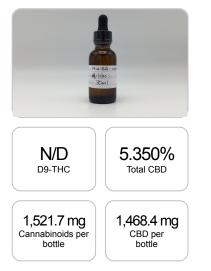
Cannabinoids Test SHIMADZU INTEGRATED UPLC-PDA



Order #: 45576 Order Name: CTNAT1350 -191218G Batch#: 11 Received: 01/06/2020 Completed: 01/15/2020

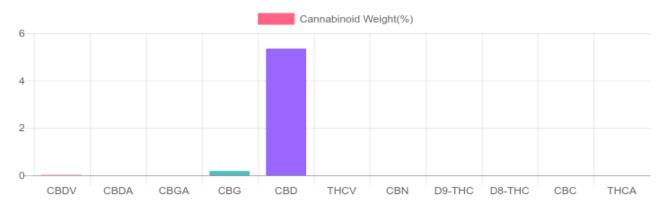


#### Sample



GSL SOP 400 PREPARED: 01/06/2020 11:10:46 UPLOADED: 01/08/2020 14:31:51 Cannabinoids LOQ weight(%) mg/bottle mg/g D9-THC 10 PPM N/D N/D N/D THCA 10 PPM N/D N/D N/D CBD 10 PPM 1,468.4 5.350% 53.495 CBDA 20 PPM N/D N/D N/D CBDV 20 PPM 0.012% 0.121 3.3 СВС 10 PPM N/D N/D N/D CBN 10 PPM N/D N/D N/D CBG 10 PPM 0.182% 1.821 50.0 CBGA 20 PPM N/D N/D N/D D8-THC 10 PPM N/D N/D N/D THCV 10 PPM N/D N/D N/D TOTAL D9-THC N/D N/D N/D TOTAL CBD\* 5.350% 53.495 1,468.4 TOTAL CANNABINOIDS 5.544% 55.437 1,521.7

1 bottle = 30 ml per bottle x density (0.915) x Cannabinoid concentration



Reporting Limit 10 ppm \*Total CBD = CBD + CBDA x 0.877

N/D - Not Detected, B/LOQ - Below Limit of Quantification

Dr. Andrew Hall, Ph.D., Chief Scientific Officer

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Ben Witten, MS, MT., Lab Director

Green Scientific Labs info@greenscientificlabs.com 1-833 TEST CBD





Order #: 45576 Order Name: CTNAT1350 -191218G Batch#: 11 Received: 01/06/2020 Completed: 01/15/2020



### **PESTICIDE ANALYSIS:**

GSL SOP 401

PREPARED: 01/06/2020 12:45:43

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UPLOADED: 01/07/2020 11:05:55

GCMS-MS - Shimadzu GCMS-TQ8040

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
CHLORFENAPYR	0.010	N/D	0.003	0.001
COUMAPHOS	0.010	N/D	0.003	0.001
CYFLUTHRIN	0.010	N/D	0.003	0.001
CYPERMETHRIN	0.500	N/D	0.003	0.001

Pesticide	Action Level	Results	LOQ	LOD
resticide	(ppm)	(ppm)	(ppm)	(ppm)
FIPRONIL	0.010	N/D	0.003	0.001
FLUDIOXONIL	0.020	N/D	0.003	0.001
PENTACHLORONITROBENZENE	0.030	N/D	0.003	0.001

#### LCMS-MS - Shimadzu LCMS-8060

Pesticide	Action Level	Results	LOQ	LOD
i esticide	(ppm)	(ppm)	(ppm)	(ppm)
ABAMECTIN B1A	0.020	N/D	0.005	0.001
ACEPHATE	0.020	N/D	0.001	0.001
ACEQUINOCYL	0.020	N/D	0.001	0.001
ACETAMIPRID	10.000	N/D	0.005	0.001
ALDICARB	0.010	N/D	0.005	0.001
AZOXYSTROBIN	0.100	N/D	0.001	0.001
BIFENAZATE	0.010	N/D	0.005	0.001
CHLORPYRIFOS	0.020	N/D	0.001	0.001
CLOFENTEZINE	0.040	N/D	0.001	0.001
DAMINOZIDE	0.010	N/D	0.005	0.001
DIAZANON	0.010	N/D	0.001	0.001
DICHLORVOS	0.020	N/D	0.005	0.001
DIMETHOATE	0.010	N/D	0.001	0.001
DIMETHOMORPH	0.010	N/D	0.005	0.001
ETHOPROPHOS	0.010	N/D	0.001	0.001
ETOFENPROX	0.010	N/D	0.001	0.001
ETOXAZOLE	0.010	N/D	0.010	0.005
FENHEXAMID	0.080	N/D	0.005	0.001
FENOXYCARB	0.010	N/D	0.005	0.001
FENPYROXIMATE	0.100	N/D	0.001	0.001
FLONICAMID	0.100	N/D	0.025	0.010
HEXYTHIAZOX	0.100	N/D	0.005	0.001
IMAZALIL	0.010	N/D	0.005	0.001
IMIDACLOPRID	0.020	N/D	0.005	0.001
KRESOXIM-METHYL	0.020	N/D	0.010	0.005
MALATHION	0.010	N/D	0.005	0.001

Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
0.010	N/D	0.001	0.001
0.010	N/D	0.005	0.001
0.010	N/D	0.001	0.001
0.010	N/D	0.001	0.001
0.020	N/D	0.005	0.001
0.010	N/D	0.005	0.001
0.026	N/D	0.001	0.001
0.010	N/D	0.005	0.001
0.020	N/D	0.005	0.001
0.020	N/D	0.005	0.001
3.000	N/D	0.001	0.001
0.020	N/D	0.005	0.005
0.020	N/D	0.010	0.005
0.020	N/D	0.001	0.001
0.500	N/D	0.005	0.005
0.020	N/D	0.005	0.001
0.040	N/D	0.001	0.001
0.020	N/D	0.001	0.001
0.020	N/D	0.001	0.001
0.030	N/D	0.005	0.001
0.020	N/D	0.001	0.001
0.010	N/D	0.001	0.001
0.010	N/D	0.005	0.001
0.010	N/D	0.001	0.001
0.010	N/D	0.001	0.001
0.020	N/D	0.001	0.001
	(ppm) 0.010 0.010 0.010 0.010 0.020 0.010 0.026 0.010 0.020 0.010 0.010 0.010 0.010 0.010 0.010 0.010	(ppm)         (ppm)           0.010         N/D           0.010         N/D           0.010         N/D           0.010         N/D           0.010         N/D           0.010         N/D           0.020         N/D           0.010         N/D           0.020         N/D           0.010         N/D           0.010         N/D           0.010         N/D           0.010         N/D           0.010         N/D	(ppm)         (ppm)         (ppm)         (ppm)           0.010         N/D         0.001           0.010         N/D         0.005           0.010         N/D         0.001           0.010         N/D         0.001           0.010         N/D         0.001           0.020         N/D         0.005           0.026         N/D         0.005           0.026         N/D         0.005           0.026         N/D         0.005           0.020         N/D         0.001           0.020         N/D         0.001           0.020         N/D         0.001           0.020         N/D         0.001           0.020         <

N/D = Not Detected, A/LOQ = Above LOQ Level, B/LOQ = Below LOQ Level, B/LOD = Below LOD Level

Dr. Andrew Hall, Ph.D., Chief Scientific Officer

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Ben Witten, MS, MT., Lab Director

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Order #: 45576 Order Name: CTNAT1350 -191218G Batch#: 11 Received: 01/06/2020 Completed: 01/15/2020



#### **Microbial Analysis:**

Microbial Analysis GSL SOP 406

Uploaded: 01/12/2020 11:53:08

PCR - Agilent AriaMX Test	Test Method Used	Device Used	LOD	Allowable Criteria	Actual Result	Pass/Fail
STEC E.COLI*	USP 61/62†	ARIAMX PCR	2 COPIES OF DNA	PRESENCE / ABSENT	BELOW	PASS
STEC E.COLI	03P 01/02		2 COPIES OF DINA	FRESENCE / ABSENT	LOD	PA33
SALMONELLA*	USP 61/62†	ARIAMX PCR	5 COPIES OF DNA	PRESENCE / ABSENT	BELOW	PASS
SALMONELLA	USP 01/02T	ARIANIX PCR	5 COPIES OF DINA	PRESENCE / ABSENT	LOD	PASS
		ARIAMX PCR		PRESENCE / ABSENT	BELOW	PASS
ASPERGILLUS	USP 61/62†	ARIANIX PCR	ASP_LOD***	PRESENCE / ABSENT	LOD	PASS

† USP 61 (enumeration of bacteria TAC, TYM, and ENT/Coliform), USP 62 (identifying specific species E.coli Aspergillus etc)

\* STEC and Salmonella run as Multiplex

\*\*\* Flavus = 2 Copies of DNA / Fumigatis = 2 Copies of DNA Niger = 20 Copies of DNA / Terrus = 10 copies of DNA

Dr. Andrew Hall, Ph.D., Chief Scientific Officer

Ben Witten, MS, MT., Lab Director

Green Scientific Labs info@greenscientificlabs.com 1-833 TEST CBD





Order #: 45576 Order Name: CTNAT1350 -191218G Batch#: 11 Received: 01/06/2020 Completed: 01/15/2020



#### Heavy Metals Analysis:

ICP-MS - Shimadzu ICPMS-2030 GSL SOP 403

Uploaded: 01/06/2020 18:53:33

Metal	Action Level (ppb)	Result (ppb)
ARSENIC (AS)	200	B/LOQ
CADMIUM (CD)	200	B/LOQ
MERCURY (HG)	100	B/LOQ
LEAD (PB)	500	B/LOQ

Lower Limit of Quantitation (LOQ) is 75 ppb

Dr. Andrew Hall, Ph.D., Chief Scientific Officer

Ben Witten, MS, MT., Lab Director

Green Scientific Labs info@greenscientificlabs.com 1-833 TEST CBD



**Cannabinoids Test** 



Order #: 42031 Order Name: BSO2G.111919 Batch#: BSO2G.111919 Received: 11/20/2019 Completed: 11/25/2019

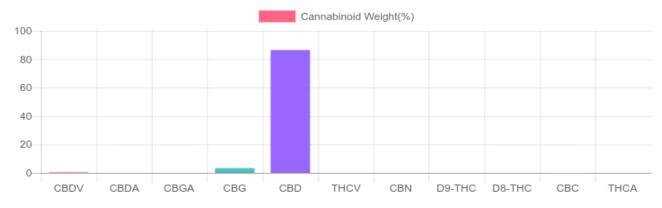


#### Sample





SHIMADZU INTEGRATED GSL SOP 400	UPLC-PDA PREPARED: 11/20/2019 11:38:06	UPLOADE	<b>D:</b> 11/21/2019 11:54:19
Cannabinoids	LOQ	weight(%)	mg/g
D9-THC	10 PPM	N/D	N/D
THCA	10 PPM	N/D	N/D
CBD	10 PPM	86.46%	864.57
CBDA	20 PPM	N/D	N/D
CBDV	20 PPM	0.37%	3.67
CBC	10 PPM	0.01%	0.07
CBN	10 PPM	N/D	N/D
CBG	10 PPM	3.34%	33.36
CBGA	20 PPM	N/D	N/D
D8-THC	10 PPM	N/D	N/D
THCV	10 PPM	N/D	N/D
TOTAL D9-THC		N/D	N/D
TOTAL CBD*		86.46%	864.57
TOTAL CANNABINOIDS		90.18%	901.67



Reporting Limit 100 ppm \*Total CBD = CBD + CBDA x 0.877

N/D - Not Detected, B/LOQ - Below Limit of Quantification



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Dr. Andrew Hall, Ph.D., CSO & Lab Director



Order #: 42031 Order Name: BSO2G.111919 Batch#: BSO2G.111919 Received: 11/20/2019 Completed: 11/25/2019



### **TERPENES: TOTAL (0.000%)**

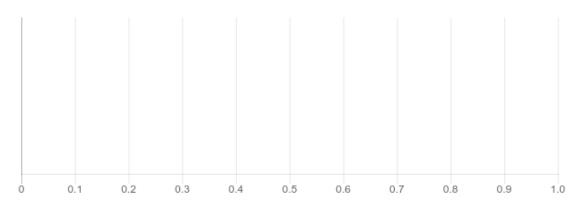
Headspace GCMS - Shimadzu GCMS QP2020 with HS20

GSL SOP 404 Prepared: 11/20/2019 16:31:38 Uploaded: 11/21/2019 07:20:57

TerpeneResults (%)LOQ (%)LOD (%)

**Terpenes Breakdown** 

#### **Top Terpenes Results:**



#### Tested for but not present:

ALPHA-PINENE, CAMPHENE, BETA-MYRCENE, BETA-PINENE, 3-CARENE, ALPHA-TERPINENE, TRANS-BETA-OCIMENE, LIMONENE, P-CYMENE, CIS-BETA-OCIMENE, EUCALYPTOL, GAMMA.-TERPINENE, TERPINOLENE, LINALOOL, ISOPULEGOL, GERANIOL, CARYOPHYLLENE, HUMULENE, CIS-NEROLIDOL, TRANS-NEROLIDOL, GUAIOL, CARYOPHYLLENE OXIDE, ALPHA-BISABOLOL



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Order #: 42031 Order Name: BSO2G.111919 Batch#: BSO2G.111919 Received: 11/20/2019 Completed: 11/25/2019



### **PESTICIDE ANALYSIS:**

GSL SOP 401

PREPARED: 11/20/2019 14:28:07

UPLOADED: 11/22/2019 15:16:08

GCMS-MS - Shimadzu GCMS-TQ8040

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)	Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
FIPRONIL	0.100	N/D	0.003	0.001	FLUDIOXONIL	0.100	N/D	0.003	0.001

LCMS-MS - Shimadzu LCMS-8060

	Action	Depute	1.00	LOD
Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	(ppm)
ABAMECTIN B1A	0.100	N/D	0.005	0.001
ACEPHATE	0.100	N/D	0.003	0.001
ACEQUINOCYL	0.100	N/D	0.001	0.001
ACETAMIPRID	0.100	N/D	0.005	0.001
ALDICARB	0.100	N/D	0.005	0.001
AZOXYSTROBIN	0.100	N/D	0.001	0.001
BIFENAZATE	0.100	N/D	0.005	0.001
BIFENTHRIN	3.000	N/D	0.005	0.001
BOSCALID	0.100	N/D	0.005	0.001
CARBARYL	0.500	N/D	0.003	0.001
CARBOFURAN	0.100	N/D	0.001	0.001
CHLORANTRANILIPROLE	10.000	N/D	0.005	0.005
CHLORPYRIFOS	0.100	N/D	0.001	0.001
CLOFENTEZINE	0.100	N/D	0.001	0.001
DAMINOZIDE	0.100	N/D	0.005	0.001
DIAZANON	0.100	N/D	0.001	0.001
DICHLORVOS	0.100	N/D	0.005	0.001
DIMETHOATE	0.100	N/D	0.001	0.001
DIMETHOMORPH	2.000	N/D	0.005	0.001
ETHOPROPHOS	0.100	N/D	0.001	0.001
ETOFENPROX	0.100	N/D	0.001	0.001
ETOXAZOLE	0.100	N/D	0.010	0.005
FENHEXAMID	0.100	N/D	0.005	0.001
FENOXYCARB	0.100	N/D	0.005	0.001
FENPYROXIMATE	0.100	N/D	0.001	0.001
FLONICAMID	0.100	N/D	0.025	0.010
HEXYTHIAZOX	0.100	N/D	0.005	0.001
IMAZALIL	0.100	N/D	0.005	0.001

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
IMIDACLOPRID	5.000	N/D	0.005	0.001
KRESOXIM-METHYL	0.100	N/D	0.010	0.005
MALATHION	0.500	N/D	0.005	0.001
METALAXYL	2.000	N/D	0.001	0.001
METHIOCARB	0.100	N/D	0.005	0.001
METHOMYL	1.000	N/D	0.001	0.001
MEVINPHOS	0.100	N/D	0.001	0.001
MYCLOBUTANIL	0.100	N/D	0.005	0.001
NALED	0.100	N/D	0.005	0.001
OXAMYL	0.500	N/D	0.001	0.001
PACLOBUTRAZOL	0.100	N/D	0.005	0.001
PERMETHRINS	0.500	N/D	0.005	0.001
PHOSMET	0.100	N/D	0.005	0.001
PIPERONYL	3.000	N/D	0.001	0.001
BUTOXIDE				
PRALLETHRIN	0.100	N/D	0.005	0.005
PROPICONAZOLE	0.100	N/D	0.010	0.005
PROPOXUR	0.100	N/D	0.001	0.001
PYRETHRINS (PYRETHRIN I)	0.500	N/D	0.005	0.005
PYRIDABEN	0.100	N/D	0.005	0.001
SPINETORAM	0.100	N/D	0.001	0.001
SPINOSAD	0.100	N/D	0.001	0.001
SPIROMESIFEN	0.100	N/D	0.005	0.001
SPIROTETRAMAT	0.100	N/D	0.001	0.001
SPIROXAMINE	0.100	N/D	0.001	0.001
TEBUCONAZOLE	0.100	N/D	0.005	0.001
THIACLOPRID	0.100	N/D	0.001	0.001
THIAMETHOXAM	5.000	N/D	0.001	0.001
TRIFLOXYSTROBIN	0.100	N/D	0.001	0.001

N/D = Not Detected, A/LOQ = Above LOQ Level, B/LOQ = Below LOQ Level, B/LOD = Below LOD Level



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Order #: 42031 Order Name: BSO2G.111919 Batch#: BSO2G.111919 Received: 11/20/2019 Completed: 11/25/2019



### **RESIDUAL SOLVENTS:**

Headspace GCMS - Shimadzu GCMS QP2020 with HS20

GSL SOP 405 Prepared: 11/20/2019 14:30:29 Uploaded: 11/21/2019 07:40:11

Residual Solvent	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
ACETONE	5,000	N/D	140	20
ACETONITRILE	410	N/D	25	1
BENZENE	1	N/D	1	0.5
UTANE	5,000	N/D	50	10
HLOROFORM	1	N/D	1	0.5
ICHLOROETHANE	1	N/D	1	0.5
DICHLOROMETHANE	1	N/D	1	0.5
THANOL	5,000	N/D	140	20
THYL ACETATE	5,000	N/D	140	20
THYL ETHER	5,000	N/D	140	20
SOPROPYL ALCOHOL	5,000	N/D	140	20
IETHANOL	3,000	N/D	100	20
I-HEPTANE	5,000	N/D	140	20
I-HEXANE	290	N/D	18	10
ENTANE	5,000	N/D	140	20
PROPANE	5,000	N/D	20	1
OLUENE	890	N/D	53	1
RICHLOROETHENE	1	N/D	0	0
YLENES	2,170	N/D	130	20



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Order #: 42031 Order Name: BSO2G.111919 Batch#: BSO2G.111919 Received: 11/20/2019 Completed: 11/25/2019



#### Heavy Metals Analysis:

ICP-MS - Shimadzu ICPMS-2030 GSL SOP 403

Uploaded: 11/20/2019 19:42:07

Metal	Action Level (ppb)	Result (ppb)
ARSENIC (AS)	200	B/LOQ
CADMIUM (CD)	200	B/LOQ
MERCURY (HG)	100	B/LOQ
LEAD (PB)	500	B/LOQ

Lower Limit of Quantitation (LOQ) is 75 ppb



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