

# CERTIFICATE OF ANALYSIS

**PRODUCT NAME:** Joy Organics CBD Gummy Mixed Berry (Sleep)  
**PRODUCT STRENGTH:** 30mg CBD, 1mg THC and 3mg Melatonin / Gummy  
**BATCH:** 220519D, 220519B, 220523A, 220622C, 230515A, 230713A  
**BEST BY DATE: HEMP** May & June 2024  
**EXTRACT LOT:** 631

### Physical Attributes

Test	Method	Specification	Results
Color	Joy Internal	Purple	PASS
Odor	Joy Internal	Sweet, berry	PASS
Appearance	Joy Internal	Purple gummies with sugar coating in child proof container	PASS
Primary Package Eval.	Joy Internal	Container clean and free of filth. Container caps tight and seals intact	PASS
Secondary Package Eval.	Joy Internal	Labeling Compliance Checked, Sufficient cushion material exists. Box taped and secure.	PASS

### Review of Third-Party Analysis

Panel	Method	Specification	Results*	Pass/Fail
<b>Potency - Total CBD</b>	HPLC-UV DAD	*NLT 30 mg / gummy	<b>34.023mg</b>	PASS
<b>Potency - D9-THC</b>	HPLC-UV DAD	LOQ: <0.01% (broad spectrum)	<b>1.056mg</b>	PASS
<b>Expanded Pesticide Panel</b>	HPLC-QQQ	LOQ: Complies with CDPHE 6 CCR 1010-21 Industrial Hemp Extract	<b>Below LOQ</b>	PASS
<b>Microbial</b> Escherichia coli (STEC)	PCR	Complies with CDPHE 6 CCR 1010-21 - LOQ 1 CFU/25 gram	<b>Absent</b>	PASS
<b>Microbial</b> Salmonella	PCR	Complies with CDPHE 6 CCR 1010-21 - LOQ 1 CFU/25 gram	<b>Absent</b>	PASS
<b>Microbial</b> Yeast and Mold	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ 10 <sup>2</sup> CFU/gram	<b>Below LOQ</b>	PASS
<b>Microbial</b> Total Coliforms*	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ 10 <sup>2</sup> CFU/gram	<b>Below LOQ</b>	PASS
<b>Microbial</b> Total Aerobic Count*	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ 10 <sup>3</sup> CFU/gram	<b>Below LOQ</b>	PASS
<b>Heavy Metals Panel</b>	ICP-MS	Arsenic (As): ≤1.5 ppm Cadmium (Cd): ≤0.5 ppm Lead (Pb): ≤0.5 ppm Mercury (Hg): ≤1.5 ppm	<b>Below LOQ</b>	PASS
<b>Mycotoxins</b>	ICP-MS	Total Aflatoxins <20 ppb† Aflatoxin B1 < 5 ppb Ochratoxin < 5ppb	<b>Below LOQ</b>	PASS
<b>Residual Solvents</b>	GC-HS-MSD	LOQ: Complies with CDPHE 6 CCR 1010-21 Industrial Hemp Extract	<b>Below LOQ</b>	PASS

\* \*Level of Quantitation, † Parts Per Million ‡ Part Per Billion  
 CFU/g=Colony Forming Units per Gram  
 \* Nothing Less Than  
 10<sup>2</sup>=100 CFU  
 10<sup>3</sup>=1,000 CFU

Quality Certified

*Kristen Mefford*  
Name

5/20/2022

Date

Prepared for:  
**OPEN BOOK EXTRACTS**

317 LUCY GARRETT ROAD  
ROXBORO, NC USA 27574

## 30mg FS Mixed Berry + CBN & Melatonin

Batch ID or Lot Number: <b>631</b>	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 1 of 5
Reported: <b>19May2022</b>	Started: 02May2022	Received: 02May2022	


## Cannabinoids - Colorado Compliance

Test ID: T000204110  
Methods: TM14 (HPLC-DAD): Potency - Standard

Cannabinoid Analysis	LOD (%)	LOQ (%)	Result (%)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.008	0.024	0.035	0.35	Amendment to certificate T000204110 issued on 02May2022, batch ID updated.
Cannabichromenic Acid (CBCA)	0.007	0.022	ND	ND	
Cannabidiol (CBD)	0.018	0.061	1.031	10.31	
Cannabidiolic Acid (CBDA)	0.018	0.063	ND	ND	
Cannabidivarin (CBDV)	0.004	0.015	0.009*	0.09*	
Cannabidivarinic Acid (CBDVA)	0.008	0.026	ND	ND	
Cannabigerol (CBG)	0.004	0.013	0.023	0.23	
Cannabigerolic Acid (CBGA)	0.019	0.056	ND	ND	
Cannabinol (CBN)	0.006	0.018	0.119	1.19	
Cannabinolic Acid (CBNA)	0.013	0.038	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.022	0.067	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.020	0.061	0.032	0.32	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.018	0.054	ND	ND	
Tetrahydrocannabivarin (THCV)	0.004	0.012	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.016	0.048	ND	ND	
<b>Total Cannabinoids</b>			<b>1.249</b>	<b>12.49</b>	
Total Potential THC			0.032	0.32	
Total Potential CBD			1.031	10.31	

### Final Approval

  
Ryan Weems  
19May2022  
03:11:00 PM MDT  
PREPARED BY / DATE

  
Sam Smith  
19May2022  
03:19:00 PM MDT  
APPROVED BY / DATE


## Heavy Metals - Colorado Compliance

Test ID: T000204113  
Methods: TM19 (ICP-MS): Heavy

Metals	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.04 - 4.30	ND	Amendment to certificate T000204113 issued on 03May2022, batch ID updated.
Cadmium	0.04 - 4.16	ND	
Mercury	0.06 - 5.73	ND	
Lead	0.04 - 4.07	ND	

### Final Approval

  
Ryan Weems  
19May2022  
01:43:00 PM MDT  
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Sam Smith  
19May2022  
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Prepared for:  
**OPEN BOOK EXTRACTS**

317 LUCY GARRETT ROAD  
ROXBORO, NC USA 27574

**30mg FS Mixed Berry + CBN & Melatonin**

Batch ID or Lot Number: <b>631</b>	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 3 of 5
Reported: <b>19May2022</b>	Started: 02May2022	Received: 02May2022	

**Pesticides**


Test ID: T000204111

Methods: TM17

(LC-QQ LC MS/MS)	Dynamic Range (ppb)	Result (ppb)	Dynamic Range (ppb)	Result (ppb)	
Abamectin	370 - 2591	ND	Malathion	276 - 2732	ND
Acephate	43 - 2785	ND	Metalaxyl	43 - 2677	ND
Acetamiprid	39 - 2764	ND	Methiocarb	45 - 2770	ND
Azoxystrobin	50 - 2751	ND	Methomyl	41 - 2768	ND
Bifenazate	38 - 2689	ND	MGK 264 1	164 - 1632	ND
Boscalid	41 - 2829	ND	MGK 264 2	115 - 1148	ND
Carbaryl	39 - 2732	ND	Myclobutanil	35 - 2826	ND
Carbofuran	43 - 2727	ND	Naled	50 - 2755	ND
Chlorantraniliprole	57 - 2716	ND	Oxamyl	39 - 2787	ND
Chlorpyrifos	41 - 2676	ND	Paclobutrazol	40 - 2708	ND
Clofentezine	290 - 2773	ND	Permethrin	281 - 2618	ND
Diazinon	266 - 2710	ND	Phosmet	42 - 2702	ND
Dichlorvos	278 - 2799	ND	Prophos	265 - 2783	ND
Dimethoate	46 - 2748	ND	Propoxur	42 - 2732	ND
E-Fenpyroximate	279 - 2765	ND	Pyridaben	298 - 2651	ND
Etofenprox	44 - 2712	ND	Spinosad A	33 - 2264	ND
Etoxazole	303 - 2667	ND	Spinosad D	52 - 487	ND
Fenoxycarb	32 - 2691	ND	Spiromesifen	302 - 2674	ND
Fipronil	10 - 2618	ND	Spirotetramat	273 - 2683	ND
Flonicamid	49 - 2710	ND	Spiroxamine 1	18 - 1194	ND
Fludioxonil	268 - 2761	ND	Spiroxamine 2	25 - 1593	ND
Hexythiazox	46 - 2678	ND	Tebuconazole	284 - 2681	ND
Imazalil	273 - 2705	ND	Thiacloprid	42 - 2776	ND
Imidacloprid	44 - 2772	ND	Thiamethoxam	48 - 2749	ND
Kresoxim-methyl	37 - 2663	ND	Trifloxystrobin	43 - 2768	ND

**Final Approval**

  
 Ryan Weems  
 19May2022  
 02:05:00 PM MDT  
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 Sam Smith  
 19May2022  
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Prepared for:  
**OPEN BOOK EXTRACTS**

 317 LUCY GARRETT ROAD  
 ROXBORO, NC USA 27574


**30mg FS Mixed Berry + CBN & Melatonin**


Batch ID or Lot Number: <b>631</b>	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 5 of 5
Reported: <b>19May2022</b>	Started: 02May2022	Received: 02May2022	

**Microbial Contaminants - Colorado Compliance**

 Test ID: T000204112  
 Methods: TM25 (qPCR) TM24, TM26, TM27 (Culture Plating): Microbial (Colorado Panel)

	Method	LOD	Quantitation Range	Result	Notes
STEC	TM25: PCR	10 <sup>0</sup> CFU/25g	NA	Absent	Free from visual mold, mildew, and foreign matter Amendment to report T000204112 for batch ID correction. SCH 19May2022
<i>Salmonella</i>	TM25: PCR	10 <sup>0</sup> CFU/25g	NA	Absent	
Total Yeast and Mold*	TM24: Culture Plating	10 <sup>1</sup> CFU/g	1.0x10 <sup>2</sup> - 1.5x10 <sup>4</sup>	None Detected	
Total Aerobic Count*	TM26: Culture Plating	10 <sup>2</sup> CFU/g	1.0x10 <sup>3</sup> - 1.5x10 <sup>5</sup>	None Detected	
Total Coliforms*	TM27: Culture Plating	10 <sup>1</sup> CFU/g	1.0x10 <sup>2</sup> - 1.5x10 <sup>4</sup>	None Detected	

**Final Approval**

 Sarah Henning  
 19May2022  
 03:28:00 PM MDT  
 PREPARED BY / DATE


 Carly Bader  
 19May2022  
 03:38:00 PM MDT  
 APPROVED BY / DATE

<https://results.botanacor.com/api/v1/coas/uuid/2849a066-1630-4919-9385-6b750467906a>

**Definitions**  
 LOD = Limit of Detection, ULOQ = Upper Limit of Quantitation, LLOQ = Lower Limit of Quantitation, PPB = Parts per Billion, % = % (w/w) = Percent (weight of analyte / weight of product). ND = None Detected (defined by dynamic range of the method). Total Potential Delta 9-THC or CBD is calculated to take into account the loss of a carboxyl group during decarboxylation step, using the following formulas: Total Potential Delta 9-THC = Delta 9-THC + (Delta 9-THCa \*(0.877)) and Total CBD = CBD + (CBDa \*(0.877)). Fail equates to a concentration level of Delta 9-THC, on a dry weight basis, higher than 0.3 percent + or - the measurement uncertainty. Total Potential THC 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)). ALOQ = Above Limit Of Quantitation (defined by dynamic range of the method), CFU/g = Colony Forming Units 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<sup>2</sup> = 100 CFU, 10<sup>3</sup> = 1,000 CFU, 10<sup>4</sup> = 10,000 CFU, 10<sup>5</sup> = 100,000 CFU.

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 17025:2017 Accredited by A2LA. Some tests listed on this COA may not be within our scope of A2LA accreditation. Please visit [A2LA for more details](#).


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Prepared for:

**OPEN BOOK EXTRACTS**317 LUCY GARRETT ROAD  
ROXBORO, NC USA 27574**30mg FS Mixed Berry + CBN & Melatonin**

Batch ID or Lot Number: <b>631</b>	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 2 of 5
Reported: <b>19May2022</b>	Started: 02May2022	Received: 02May2022	



**Mycotoxins - Colorado Compliance**

Test ID: T000204115

Methods: TM18 (UHPLC-QQQ)

LCMS/MS): Mycotoxins

	Dynamic Range (ppb)	Result (ppb)	Notes
Ochratoxin A	3.47 - 129.14	ND	Amendment to T000204115 issued 05May2022 to correct batch ID.
Aflatoxin B1	1.10 - 33.19	ND	N/A
Aflatoxin B2	1.20 - 33.12	ND	
Aflatoxin G1	1.17 - 32.96	ND	
Aflatoxin G2	1.26 - 33.54	ND	
Total Aflatoxins (B1, B2, G1, and G2)		ND	

**Final Approval**  
Samantha Smith  
19May2022  
12:11:00 PM MDT  
PREPARED BY / DATE  
Ryan Weems  
19May2022  
12:13:00 PM MDT  
APPROVED BY / DATE

Prepared for:

**OPEN BOOK EXTRACTS**317 LUCY GARRETT ROAD  
ROXBORO, NC USA 27574**30mg FS Mixed Berry + CBN & Melatonin**

Batch ID or Lot Number: <b>631</b>	Test, Test ID and Methods: Various	Matrix: Concentrate	Page 4 of 5
Reported: <b>19May2022</b>	Started: 02May2022	Received: 02May2022	

**Residual Solvents -  
Colorado Compliance**


Test ID: T000204114

Methods: TM04 (GC-MS): Residual

Solvents	Dynamic Range (ppm)	Result (ppm)	Notes
Propane	56 - 1120	ND	Amendment to certificate T000204114 issued on 05May2022, batch ID updated.
Butanes (Isobutane, n-Butane)	119 - 2370	ND	
Methanol	49 - 978	ND	
Pentane	67 - 1338	ND	
Ethanol	68 - 1361	>1361	
Acetone	78 - 1553	ND	
Isopropyl Alcohol	80 - 1607	ND	
Hexane	5 - 95	ND	
Ethyl Acetate	79 - 1571	ND	
Benzene	0.2 - 3.1	ND	
Heptanes	74 - 1479	ND	
Toluene	14 - 287	ND	
Xylenes (m,p,o-Xylenes)	104 - 2080	ND	

**Final Approval**

Ryan Weems  
19May2022  
12:51:00 PM MDT

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Sam Smith  
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