

Prepared for:
Bent Paddle Brewing Co
1912 W Michigan St.
Duluth, MN USA 55806

CBD+ POG

Batch ID or Lot Number: 092122	Test, Test ID and Methods: Various	Matrix: Unit	Page 1 of 4
Reported: 26Sep2022	Started: 23Sep2022	Received: 22Sep2022	

Heavy Metals

Test ID: T000222179
Methods: TM19 (ICP-MS): Heavy Metals

Metals	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.04 - 4.13	ND	
Cadmium	0.04 - 4.31	ND	
Mercury	0.04 - 4.38	ND	
Lead	0.04 - 3.78	ND	

Final Approval


Daniel Weidensaul
26Sep2022
03:17:00 PM MDT

PREPARED BY / DATE


Sam Smith
26Sep2022
03:19:00 PM MDT

APPROVED BY / DATE

Microbial Contaminants

Test ID: T000222178
Methods: TM25 (PCR) TM24, TM26, TM27 (Culture Plating)

	Method	LOD	Quantitation Range	Result	Notes
STEC	TM25: PCR	10 ⁰ CFU/25g	NA	Absent	Free from visual mold, mildew, and foreign matter
Salmonella	TM25: PCR	10 ⁰ CFU/25g	NA	Absent	
Total Yeast and Mold*	TM24: Culture Plating	10 ¹ CFU/g	1.0x10 ² - 1.5x10 ⁴	None Detected	
Total Aerobic Count*	TM26: Culture Plating	10 ² CFU/g	1.0x10 ³ - 1.5x10 ⁵	None Detected	
Total Coliforms*	TM27: Culture Plating	10 ¹ CFU/g	1.0x10 ² - 1.5x10 ⁴	None Detected	

Final Approval


Jacob Folkerts
26Sep2022
01:57:00 PM MDT

PREPARED BY / DATE


Eden Thompson-Wright
26Sep2022
03:25:00 PM MDT

APPROVED BY / DATE

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Cannabinoids

Test ID: T000222176

Methods: TM14 (HPLC-DAD)

	LOD (mg)	LOQ (mg)	Result (mg)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.135	0.502	0.630	0.00	# of Servings = 1, Sample Weight=355g
Cannabichromenic Acid (CBCA)	0.124	0.459	ND	ND	
Cannabidiol (CBD)	0.455	1.277	28.570	0.10	
Cannabidiolic Acid (CBDA)	0.466	1.309	ND	ND	
Cannabidivarin (CBDV)	0.108	0.302	0.160	0.00	
Cannabidivarinic Acid (CBDVA)	0.195	0.546	ND	ND	
Cannabigerol (CBG)	0.077	0.285	0.210	0.00	
Cannabigerolic Acid (CBGA)	0.321	1.192	ND	ND	
Cannabinol (CBN)	0.100	0.372	0.100	0.00	
Cannabinolic Acid (CBNA)	0.219	0.813	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.383	1.420	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.348	1.289	2.220	0.00	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.308	1.142	ND	ND	
Tetrahydrocannabivarin (THCV)	0.070	0.259	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.272	1.008	ND	ND	
Total Cannabinoids			31.890	0.09	
Total Potential THC			2.220	0.01	
Total Potential CBD			28.570	0.08	

Final Approval


Daniel Weidensaul
26Sep2022
05:16:00 PM MDT

PREPARED BY / DATE


Jacob Miller
26Sep2022
05:25:00 PM MDT

APPROVED BY / DATE

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Pesticides

Test ID: T000222177

Methods: TM17

(LC-QQ LC MS/MS)	Dynamic Range (ppb)	Result (ppb)		Dynamic Range (ppb)	Result (ppb)	
Abamectin	258 - 2788	ND		Malathion	297 - 2704	ND
Acephate	40 - 2777	ND		Metalaxyl	46 - 2717	ND
Acetamiprid	43 - 2718	ND		Methiocarb	44 - 2745	ND
Azoxystrobin	50 - 2739	ND		Methomyl	41 - 2756	ND
Bifenazate	43 - 2730	ND		MGK 264 1	178 - 1652	ND
Boscalid	44 - 2781	ND		MGK 264 2	110 - 1142	ND
Carbaryl	41 - 2719	ND		Myclobutanil	35 - 2704	ND
Carbofuran	42 - 2717	ND		Naled	44 - 2816	ND
Chlorantraniliprole	46 - 2769	ND		Oxamyl	42 - 2743	ND
Chlorpyrifos	67 - 2697	ND		Paclobutrazol	42 - 2742	ND
Clofentezine	286 - 2773	ND		Permethrin	291 - 2737	ND
Diazinon	284 - 2700	ND		Phosmet	47 - 2722	ND
Dichlorvos	270 - 2744	ND		Prophos	304 - 2712	ND
Dimethoate	43 - 2711	ND		Propoxur	42 - 2737	ND
E-Fenpyroximate	299 - 2730	ND		Pyridaben	296 - 2663	ND
Etofenprox	42 - 2730	ND		Spinosad A	35 - 2256	ND
Etoazole	300 - 2688	ND		Spinosad D	49 - 498	ND
Fenoxycarb	46 - 2726	ND		Spiromesifen	292 - 2721	ND
Fipronil	47 - 2671	ND		Spirotetramat	289 - 2803	ND
Flonicamid	44 - 2735	ND		Spiroxamine 1	19 - 1185	ND
Fludioxonil	282 - 2791	ND		Spiroxamine 2	24 - 1554	ND
Hexythiazox	43 - 2709	ND		Tebuconazole	286 - 2710	ND
Imazalil	277 - 2761	ND		Thiacloprid	42 - 2716	ND
Imidacloprid	41 - 2705	ND		Thiamethoxam	41 - 2745	ND
Kresoxim-methyl	47 - 2760	ND		Trifloxystrobin	45 - 2740	ND

Final Approval


Daniel Weidensaul
28Sep2022
03:23:00 PM MDT
PREPARED BY / DATE


Sam Smith
28Sep2022
03:28:00 PM MDT
APPROVED BY / DATE

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<https://results.botanacor.com/api/v1/coas/uuid/03d7e9ae-6854-402c-a3c8-755cecad1bf1>

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

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