CERTIFICATE OF ANALYSIS

PRODUCT NAME: Dog Chews
PRODUCT STRENGTH: 2 mg / chew

FILL LOT NUMBER: 2952501

DOG TREAT LOT NUMBER*: 21215A

BEST BY DATE 06/2023

Click on the links to view third-party reports

Physical Atttributes

Test	Method	Specification	Results
Color	SOP-100	Brown	PASS
Odor	SOP-100	Beef, grains, somewhat yeasty	PASS
Appearance	SOP-100	Squat cylindrical dog treats a plastic amber container	PASS
Primary Package Eval.	SOP-132	Container clean and free of filth. Container caps tight and shrink bands intanct.	PASS
Secondary Package Eval.	SOP-132	Labeling Compliance Checked, Cartons sturdy and clean. Sufficient cushion material exists. Box taped and secure.	PASS

Review of Third-Party Analysis

Panel	Method	Specification	Results*	Pass/Fail
Potency - Total CBD	SOP-111	*NLT 2 mg / chew	3.0 mg/chew	PASS
Potency - D9-THC	SOP-111	None Detected LOQ: 10 PPM (0.001%)	ND	PASS
Compliant Pesticide Panel	SOP-111	WIP-100008 : Product specification for Bulk Dog Chews, Oregon Action limits apply	ND	PASS
Microbial - Full Panel	SOP-111	Complies with USP 61/62	ND	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	ND	PASS

^{* *}Level of Quantitation, † Parts Per Million

Quality Certified by: Kayla Kolber 08/09/2021

Kayla Kolber Date

Quality Assurance Technician

^{*}Nothing Less Than

1HC97

Chew

7USC1639 Certificate of Analysis

sample ID Lot# 21215A source ID 1Z435FV90292362677

cannabinoids 3.3mg

order 11466

per

THC‡

chew

3.0mg

CBD‡

This Product Has Been **Tested and Complies** with 7USC1639o(1)

Stillwater Laboratories



MSP-7516

ND

result

PASS

Potency per

chew

cannabichromene (CBC)

MSP-7.5.1.4

8/5/2021 1:35:46 PM

LOD LOQ (95%CI k=2)

0.02 | 0.06 | ±0.07mg

total cannabinoids	3.3mg ND	0.02 0.06 ±0.12mg 0.02 0.06 ±0.06mg
total THC (THC+THCa)	ND	0.02 0.06 ±0.06mg
total CBD‡	3.0mg	0.02 0.06 ±0.11mg
total CBD (CBD+CBDa)	3.0mg	0.02 0.06 ±0.11mg
tetrahydrocannabolic acid (THCa)	ND	0.02 0.06 ±0.06mg
Δ9-tetrahydrocannabinol (Δ9 THC)	ND	0.02 0.06 ±0.06mg
Δ8-tetrahydrocannabinol (Δ8 THC)	ND	0.03 0.08 ±0.08mg
tetrahydrocannabivarin (THCv)	ND	0.02 0.06 ±0.06mg
cannabidiolic acid (CBDa)	ND (0.02 0.05 ±0.05mg
cannabidiol (CBD)	3.0mg	0.02 0.06 ±0.11mg
cannabidivarin (CBDv)	0.1mg	0.02 0.06 ±0.06mg
cannabigerolic acid (CBGa)	ND	0.02 0.05 ±0.05mg
cannabigerol (CBG)	ND	0.01 0.02 ±0.02mg
cannabinol (CBN)	ND	0.01 0.03 ±0.03mg
(000)	0.0	0.0010.001.0.07

0.3mg

Terpenes

caryophyllene humulene

> terpinolene ocimene

beta pinene alpha pinene

limonene

MSP-7.5.1.8

linalool

limit

0.30 ppm

LOD

LOQ error

0.005 | 0.014 | ±0.014 ppm

	WSP-7.5.1.6
total terpenes	ND
linalool	ND
β-myrcene	ND
D-limonene	ND
α-pinene	ND
β-pinene	ND
ocimene	ND
terpinolene	ND
α-humulene	ND
β-caryophyllene	ND
α-bisabolol	ND
camphene	ND
Δ3-carene	ND
caryophyllene oxide	ND
para-cymene	ND
eucalyptol	ND
geraniol	ND

Microbial
E.coli Salmonella sp. molds Ochratoxin A Aflatoxin B1B2G
Solvents
Acetone Acetonitrile Benzene Butane

	NID	F000 nnm	0.4	21401	. 1 0	DACC	
	MSP-7.5.1.7	limit	LOD	LOQ	error	result	
1G2	ND	20 ppb	(0.25 1.	0 l ±1.0%	PASS	
	ND	20 ppb		0.25 I 1.0	0 l ±1.0%	PASS	
	ND	10000CFU	(<u>†</u> .	7 5.2	±5.2CFU	PASS	
	ND	0CFU	0.	0 0.1	±0.1CFU	PASS	
	ND	0CFU	0.	0 0.1	±0.1CFU	PASS	
	MSP-7.5.1.10	limit	LOD	LOQ	error	result	

result
PASS
ווווווווווווווווווווווווווווווווווווווו

Atlatoxin B1B2G1G	2 ND	20 ppb	0			
olvents	MSP-7.5.1.7	7 limit	LOD	LOQ	error	result
Acetone	ND	5000 ppm	0.6	11.91	±1.9 ppm	PASS
Acetonitrile	ND	410 ppm	0.6	11.71	±1.7 ppm	PASS
Benzene	ND	0 ppm	0.0	10.11	±0.1 ppm	PASS
Butane	ND	5000 ppm	1.3	13.91	±3.9 ppm	PASS
Chloroform	ND	0 ppm	0.1	10.21	±0.2 ppm	PASS
Cyclohexane	ND	0 ppm	0.5	11.51	±1.5 ppm	PASS
Ethanol	ND	10000 ppm			±2.0 ppm	PASS
Heptane	ND	5000 ppm	0.4	11.11	±1.1 ppm	PASS
Hexane	ND	290 ppm	0.5	11.51	±1.5 ppm	PASS
Isopropyl alcohol	ND	5000 ppm			±1.8 ppm	PASS
Methanol	ND	3000 ppm			±1.5 ppm	PASS
Pentane	ND	5000 ppm	0.2	10.51	±0.5 ppm	PASS
Propane	ND	5000 ppm	0.5	11.51	±1.5 ppm	PASS
Toluene	ND	890 ppm	0.3	10.91	±0.9 ppm	PASS
Xylenes	ND	2170 ppm	0.3	10.91	±0.9 ppm	PASS
Metals 7	MSP-7.5.1.11	limit	LOD	LOQ	error	result
Metals Arsenic	MSP-7.5,1.11					result
		1500 ppb	7.91	23.6	±23.6 ppb	
Arsenic Cadmium	ND ND	1500 ppb 500 ppb	7.9 I 8.5 I	23.6 I 25.4 I	±23.6 ppb ±25.4 ppb	PASS PASS
Arsenic Cadmium Lead	ND	1500 ppb 500 ppb 500 ppb	7.9 I 8.5 I 13.2 I	23.6 25.4 39.6	±23.6 ppb ±25.4 ppb ±39.6 ppb	PASS
Arsenic Cadmium	ND ND ND	1500 ppb 500 ppb	7.9 I 8.5 I 13.2 I	23.6 25.4 39.6	±23.6 ppb ±25.4 ppb	PASS PASS PASS
Arsenic Cadmium Lead	ND ND ND	1500 ppb 500 ppb 500 ppb	7.9 I 8.5 I 13.2 I	23.6 25.4 39.6	±23.6 ppb ±25.4 ppb ±39.6 ppb	PASS PASS PASS
Arsenic Cadmium Lead Mercury	ND ND ND ND	1500 ppb 500 ppb 500 ppb 300 ppb	7.9 I 8.5 I 13.2 I 6.6 I	23.6 I 25.4 I 39.6 I 19.9 I	±23.6 ppb ±25.4 ppb ±39.6 ppb ±19.9 ppb	PASS PASS PASS PASS
Arsenic Cadmium Lead Mercury	ND ND ND ND MSP-7.5.1.8	1500 ppb 500 ppb 500 ppb 300 ppb	7.9 8.5 13.2 6.6 LOD	23.6 I 25.4 I 39.6 I 19.9 I LOQ	±23.6 ppb ±25.4 ppb ±39.6 ppb ±19.9 ppb error	PASS PASS PASS PASS
Arsenic Cadmium Lead Mercury Pesticides Pyrethrin	ND ND ND ND MSP-7.5.1.8	1500 ppb 500 ppb 500 ppb 300 ppb limit	7.91 8.51 13.21 6.61 LOD	23.6 25.4 39.6 19.9 LOQ 05 ±0	±23.6 ppb ±25.4 ppb ±39.6 ppb ±19.9 ppb error .005 ppm	PASS PASS PASS PASS result
Arsenic Cadmium Lead Mercury Pesticides Pyrethrin Pyridaben	ND ND ND ND MSP-7.5.1.8	1500 ppb 500 ppb 500 ppb 300 ppb 300 ppb limit 1.00 ppm 3.00 ppm	7.9 I 8.5 I 13.2 I 6.6 I LOD 0.002 I 0.00 0.001 I 0.00	23.6 25.4 39.6 19.9 LOQ 05 ±0 02 ±0 07 ±0	±23.6 ppb ±25.4 ppb ±39.6 ppb ±19.9 ppb error 0.005 ppm 0.002 ppm 0.007 ppm	PASS PASS PASS PASS result PASS PASS
Arsenic Cadmium Lead Mercury Pesticides Pyrethrin Pyridaben Spinetoram	MSP-7.5.1.8 ND ND ND ND	1500 ppb 500 ppb 500 ppb 300 ppb 300 ppb limit 1.00 ppm 3.00 ppm 3.00 ppm 3.00 ppm	7.91 8.51 13.21 6.61 LOD 0.00210.0 0.00110.0 0.00210.0	23.6 25.4 39.6 19.9 LOQ 05 ±0 07 ±0 13 ±0	±23.6 ppb ±25.4 ppb ±39.6 ppb ±19.9 ppb error 0.005 ppm 0.002 ppm 0.007 ppm	PASS PASS PASS PASS result PASS PASS PASS
Arsenic Cadmium Lead Mercury Pesticides Pyrethrin Pyridaben Spinosad Spiromesifen	ND ND ND ND MSP-7.5.1.8 ND ND ND ND	1500 ppb 500 ppb 500 ppb 300 ppb 300 ppb limit 1.00 ppm 3.00 ppm 3.00 ppm 3.00 ppm 12.00 ppm	7.91 8.51 13.21 6.61 LOD 0.00210.0 0.00110.0 0.00210.0 0.00410.0	23.6 25.4 39.6 19.9 LOQ 05 ±0 07 ±0 13 ±0 06 ±0	±23.6 ppb ±25.4 ppb ±39.6 ppb ±19.9 ppb error 1.005 ppm 1.002 ppm 1.007 ppm 1.003 ppm 1.006 ppm	PASS PASS PASS PASS result PASS PASS PASS PASS PASS
Arsenic Cadmium Lead Mercury Pesticides Pyrethrin Pyridaben Spinetoram Spinosad Spiromesifen Spirotetramat	MD ND	1500 ppb 500 ppb 500 ppb 500 ppb 300 ppb limit 1.00 ppm 3.00 ppm 3.00 ppm 3.00 ppm 12.00 ppm 13.00 ppm	7.91 8.51 13.21 6.61 LOD 0.00210.0 0.00110.0 0.00210.0 0.00410.0 0.00210.0	23.6 25.4 39.6 19.9 LOQ 05 ±0 07 ±0 13 ±0 06 ±0 06 ±0 05 ±0	±23.6 ppb ±25.4 ppb ±39.6 ppb ±19.9 ppb error 1.005 ppm 1.002 ppm 1.007 ppm 1.003 ppm 1.006 ppm 1.006 ppm	PASS PASS PASS PASS PASS PASS PASS PASS
Arsenic Cadmium Lead Mercury Pesticides Pyrethrin Pyridaben Spinosad Spiromesifen	MSP-7.5.1.8 ND	1500 ppb 500 ppb 500 ppb 500 ppb 300 ppb limit 1.00 ppm 3.00 ppm 3.00 ppm 12.00 ppm 13.00 ppm 13.00 ppm	7.91 8.51 13.21 6.61 LOD 0.00210.0 0.00110.0 0.00210.0 0.00210.0 0.00210.0	23.6 25.4 39.6 19.9 LOQ 05 ±0 07 ±0 13 ±0 06 ±0 05 ±0 02 ±0 02 ±0 02 ±0 02 ±0 02 ±0 02 ±0 02 ±0 03	±23.6 ppb ±25.4 ppb ±39.6 ppb ±19.9 ppb error 0.005 ppm 0.002 ppm 0.007 ppm 0.006 ppm 0.006 ppm 0.005 ppm	PASS PASS PASS PASS PASS PASS PASS PASS
Arsenic Cadmium Lead Mercury Pesticides Pyrethrin Pyridaben Spinetoram Spinosad Spiromesifen Spirotetramat Spiroxamine Tebuconazole	MSP-7.5.1.8 ND	1500 ppb 500 ppb 500 ppb 500 ppb 300 ppb limit 1.00 ppm 3.00 ppm 3.00 ppm 13.00 ppm 12.00 ppm 13.00 ppm 2.00 ppm	7.91 8.51 13.21 6.61 LOD 0.00210.0 0.00210.0 0.00210.0 0.00210.0 0.00210.0 0.00210.0 0.00110.0	23.6 25.4 39.6 19.9 LOQ 05 ±0 07 ±0 13 ±0 06 ±0 05 ±0 02 ±0 10 ±0 ±	±23.6 ppb ±25.4 ppb ±39.6 ppb ±19.9 ppb error .005 ppm .002 ppm .007 ppm .013 ppm .006 ppm .005 ppm	PASS PASS PASS PASS result PASS PASS PASS PASS PASS PASS PASS
Arsenic Cadmium Lead Mercury Pesticides Pyrethrin Pyridaben Spinetoram Spinosad Spiromesifen Spirotetramat Spiroxamine	MD ND	1500 ppb 500 ppb 500 ppb 500 ppb 300 ppb limit 1.00 ppm 3.00 ppm 3.00 ppm 12.00 ppm 13.00 ppm 13.00 ppm	7.91 8.51 13.21 6.61 LOD 0.00210.0 0.00110.0 0.00210.0 0.00210.0 0.00210.0	23.6 25.4 39.6 19.9 LOQ COD ±00 ±00 COD ±00 CO	±23.6 ppb ±25.4 ppb ±39.6 ppb ±19.9 ppb error .005 ppm .002 ppm .0013 ppm .006 ppm .005 ppm .005 ppm .005 ppm .005 ppm .005 ppm	PASS PASS PASS PASS PASS PASS PASS PASS

•	001.0.00	
	Abamectin	
	Acephate	
	Acequinocyl	
	Acetamiprid	
	Aldicarb	
	Azoxystrobin	
	Bifenazate	
	Bifenthrin	
	Boscalid	
	Carbaryl	
	Carbofuran	
	Chloantraniliprole	
	Chlorfenapyr	
	Chlorpyrifos	
	Clofentezine	
	Coumaphos	
	Cyfluthrin	
	Cypermethrin	
	Daminozide	
	Dichlorvos	
	Diazinon	
	Dimethoate	
	Etoxazole	
	Fenoxycarb	
	Fenpyroximate	
	Fipronil	
	Flonicamid	
	Fludioxonil	
	Hexythiazox	
	Imazalil	
	Imidacloprid	
	Malathion	
	Metalaxyl	
	Mothiogarh	

Pesticides

Abamectin	ND	0.30 ppm	0.005 0.014 ±0.014 ppm	PASS
Acephate	ND -	5.00 ppm	0.005 0.015 ±0.015 ppm	PASS
Acequinocyl	ND	4.00 ppm	0.004 0.012 ±0.012 ppm	PASS
Acetamiprid	ND	5.00 ppm	0.003 0.010 ±0.010 ppm	PASS
Aldicarb	ND	0.00 ppm	0.001 0.004 ±0.004 ppm	PASS
Azoxystrobin	ND	40.00 ppm	0.001 0.004 ±0.004 ppm	PASS
Bifenazate	ND	5.00 ppm	0.001 0.003 ±0.003 ppm	PASS
Bifenthrin	ND	0.50 ppm	0.001 0.002 ±0.002 ppm	PASS
Boscalid	ND	10.00 ppm	0.013 0.040 ±0.040 ppm	PASS
Carbaryl	ND	0.50 ppm	0.005 0.016 ±0.016 ppm	PASS
Carbofuran	ND	0.00 ppm	0.001 0.003 ±0.003 ppm	PASS
Chloantraniliprole	ND	40.00 ppm	0.013 0.038 ±0.038 ppm	PASS
Chlorfenapyr	ND	0.00 ppm	0.003 0.010 ±0.010 ppm	PASS
Chlorpyrifos	ND	0.00 ppm	0.027 0.080 ±0.080 ppm	PASS
Clofentezine	ND	0.50 ppm	0.005 0.015 ±0.015 ppm	PASS
Coumaphos	ND	0.00 ppm	0.003 0.010 ±0.010 ppm	PASS
Cyfluthrin	ND	1.00 ppm	0.005 0.014 ±0.014 ppm	PASS
Cypermethrin	ND	1.00 ppm	0.003 0.010 ±0.010 ppm	PASS
Daminozide	ND	0.00 ppm	0.018 0.054 ±0.054 ppm	PASS
Dichlorvos	ND	0.00 ppm	0.009 0.028 ±0.028 ppm	PASS
Diazinon	ND	0.20 ppm	0.001 0.002 ±0.002 ppm	PASS
Dimethoate	ND	0.00 ppm	0.001 0.004 ±0.004 ppm	PASS
Etoxazole	ND	1.50 ppm	0.002 0.007 ±0.007 ppm	PASS
Fenoxycarb	ND /	0.00 ppm	0.002 0.007 ±0.007 ppm	PASS
Fenpyroximate	ND	2.00 ppm	0.001 0.002 ±0.002 ppm	PASS
Fipronil	ND.	0.00 ppm	0.005 0.015 ±0.015 ppm	PASS
Flonicamid	ND	2.00 ppm	0.064 0.193 ±0.193 ppm	PASS
Fludioxonil	ND	30.00 ppm	0.004 0.013 ±0.013 ppm	PASS
Hexythiazox	ND	2.00 ppm	0.001 0.002 ±0.002 ppm	PASS
Imazalil	ND	0.00 ppm	0.004 0.013 ±0.013 ppm	PASS
Imidacloprid	ND	3.00 ppm	0.001 0.002 ±0.002 ppm	PASS
Malathion	ND	5.00 ppm	0.003 0.010 ±0.010 ppm	PASS
Metalaxyl	ND	15.00 ppm	0.005 0.015 ±0.015 ppm	PASS
Methiocarb	ND	0.00 ppm	0.002 0.007 ±0.007 ppm	PASS
Methomyl	ND	0.10 ppm	<0.001 0.001 ±0.001 ppm	PASS
Methyl parathion	ND	0.00 ppm	0.001 0.002 ±0.002 ppm	PASS
Mevinphos	ND	0.00 ppm	0.003 0.010 ±0.010 ppm	PASS
Myclobutanil	ND	9.00 ppm	0.001 0.002 ±0.002 ppm	PASS
Naled	ND -	0.50 ppm	0.003 0.010 ±0.010 ppm	PASS
Oxamyl	ND	0.20 ppm	0.001 0.004 ±0.004 ppm	PASS
Paclobutrazol	ND	0.00 ppm	0.002 0.005 ±0.005 ppm	PASS
Permethrin	ND	20.00 ppm	0.006 0.019 ±0.019 ppm	PASS
Phosmet	ND	0.20 ppm	0.002 0.006 ±0.006 ppm	PASS
Piperonylbutoxide	ND	8.00 ppm	0.007 0.020 ±0.020 ppm	PASS
Prallethrin	ND	0.40 ppm	0.002 0.007 ±0.007 ppm	
Propiconazole	ND	20.00 ppm	0.002 0.007 ±0.007 ppm	PASS
Propoxur	ND	0.00 ppm	0.004 0.011 ±0.011 ppm	PASS
		1100		

Certified by:







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Stillwater Laboratories Inc. MT License L0001, L0007 6073 US93N Suite 5, Olney MT 59927 406-881-2019 INSTRUMENTS: Potency by HPLC (LC2030C-UV), solvents and terpenes by GCMS (QP2020/HS20), pesticides and mycotoxins by LCMSMS (LC8060), microbial by qPCR (AriaMx) and plating (Hardy Diagnostics), metals by ICPMS (ICPMS-2030)

• All testing was completed onsite at 6073 US93N, Olney MT •• Potency (cannabinoid concentration) is calculated as: [cannabinoid] = [cannabinoid] $_{\text{HPLC}}$ x volume_{dilution}/m_{dry}. ••• Decarboxyted cannabinoid concentration is calculated XXX $_{\text{total}}$ = 0.877 x XXXa + XXX •••• Standards are used to calibrate the resulting data and estimate error using a standard estimate of error method; LOD is the limit of detection (3.3s_i), LOQ is the limit of estimate of entiron fieldod, LOD is the limit to detection (3.xSg), LOQ is the limit of quantification (3xLOD), and experimental error is calculated from weighing, dilution, and interpolation error using the formula $\mathbf{s}_g^2 = \sum (\partial I/\partial i)^2 \mathbf{s}_g^2$ where i is the contributor to error. The 95% confidence range is calculated from: (concentration) $\pm \mathbf{t}_{\text{CL90}} \times \mathbf{s}_g$. Sampling error is not considered in error calculations. ND = not detected (< LOD), NT = not tested, NL = no limit NA = acts position(b) $\pm - d \cos t \cot d$ limit, NA = not applicable. ‡ = decarbed