



CERTIFICATE OF ANALYSIS

STATUS: **RELEASED** REVISION: 00

DATE: 01/29/2021

Analysis ID No. 210123
 TDA License No. 2020002
 ISO/IEC No. 1055838
 Customer No. 20210058
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CUSTOMER INFORMATION	SAMPLE INFORMATION
Company Name: Duck Creek Apothecary	Submitted Sample Name: CBD Isolate
Address: 902 N. Hwy 137; Lamesa, Texas 79331 USA	Submitted Sample Lot: Not Provided
Phone Number: 806-759-3061	Submitted Sample Description: White Powder in 15 mL Conical Tube w/ Screw Cap
Contact Name / Email: Al Crisp / lonestarginner@gmail.com	Submitted Sample Product Type / Matrix: CBD Isolate / Powder

TOTAL THC ASSAY					
Analysis	Test Method	LOQ	Specifications	Test Results	Pass / Fail
Δ9-THC	UHPLC-DAD	0.002 w/w%	w/w%: NMT 0.300 mg/g: NMT 3.0 (Δ9-THC States Only)	0.062 w/w% 0.621 mg/g	PASS
THCa	UHPLC-DAD	0.002 w/w%	w/w%: Report Only mg/g: Report Only	< LOQ	Results Reported
Total THC	UHPLC-DAD	0.002 w/w%	w/w%: NMT 0.300 mg/g: NMT 3.0	0.062 w/w% 0.621 mg/g	PASS
Measurement Uncertainty (MU) = 0.02% at 0.3% THC					

CANNABINOIDS ASSAY					
Analysis	Test Method	LOQ	Specifications	Test Results	Pass / Fail
CBD	UHPLC-DAD	0.002 w/w%	w/w%: Report Only mg/g: Report Only	99.165 w/w% 991.650 mg/g	Results Reported
CBDa	UHPLC-DAD	0.002 w/w%	w/w%: Report Only mg/g: Report Only	< LOQ	Results Reported
Δ9-THC	UHPLC-DAD	0.002 w/w%	w/w%: Report Only mg/g: Report Only	0.062 w/w% 0.621 mg/g	Results Reported
THCa	UHPLC-DAD	0.002 w/w%	w/w%: Report Only mg/g: Report Only	< LOQ	Results Reported
CBG	UHPLC-DAD	0.002 w/w%	w/w%: Report Only mg/g: Report Only	< LOQ	Results Reported
CBGa	UHPLC-DAD	0.002 w/w%	w/w%: Report Only mg/g: Report Only	< LOQ	Results Reported
CBN	UHPLC-DAD	0.002 w/w%	w/w%: Report Only mg/g: Report Only	< LOQ	Results Reported
CBNa	UHPLC-DAD	0.002 w/w%	w/w%: Report Only mg/g: Report Only	< LOQ	Results Reported
CBC	UHPLC-DAD	0.002 w/w%	w/w%: Report Only mg/g: Report Only	0.076 w/w% 0.763 mg/g	Results Reported
CBCa	UHPLC-DAD	0.002 w/w%	w/w%: Report Only mg/g: Report Only	< LOQ	Results Reported
CBL	UHPLC-DAD	0.002 w/w%	w/w%: Report Only mg/g: Report Only	< LOQ	Results Reported
CBDV	UHPLC-DAD	0.002 w/w%	w/w%: Report Only mg/g: Report Only	0.250 w/w% 2.495 mg/g	Results Reported
CBDVa	UHPLC-DAD	0.002 w/w%	w/w%: Report Only mg/g: Report Only	< LOQ	Results Reported

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CANNABINOIDS ASSAY					
Analysis	Test Method	LOQ	Specifications	Test Results	Pass / Fail
THCV	UHPLC-DAD	0.002 w/w%	w/w%: Report Only mg/g: Report Only	0.003 w/w% 0.029 mg/g	Results Reported
THCVa	UHPLC-DAD	0.002 w/w%	w/w%: Report Only mg/g: Report Only	< LOQ	Results Reported
Total CBD	UHPLC-DAD	0.002 w/w%	w/w%: Report Only mg/g: Report Only	99.165 w/w% 991.650 mg/g	Results Reported
Total Cannabinoids	UHPLC-DAD	0.002 w/w%	w/w%: Report Only mg/g: Report Only	99.556 w/w% 995.559 mg/g	Results Reported

RESIDUAL SOLVENTS ASSAY					
Analysis	Test Method	LOQ	Specifications	Test Results	Pass / Fail
1,1-Dichloroethene	USP <467> by GC-MS	0.4 ppm	NMT 8 ppm	< LOQ	PASS
1,1,1-Trichloroethane	USP <467> by GC-MS	75 ppm	NMT 1,500 ppm	< LOQ	PASS
1,2-Dichloroethane	USP <467> by GC-MS	0.25 ppm	NMT 5 ppm	< LOQ	PASS
Benzene	USP <467> by GC-MS	0.1 ppm	NMT 2 ppm	< LOQ	PASS
Carbon tetrachloride	USP <467> by GC-MS	0.2 ppm	NMT 4 ppm	< LOQ	PASS
1,2-dichloroethene (E,Z)	USP <467> by GC-MS	93.5 ppm	NMT 1870 ppm	< LOQ	PASS
1,2-Dimethoxyethane	USP <467> by GC-MS	5 ppm	NMT 100 ppm	< LOQ	PASS
1,2,3,4- tetrahydronaphthalene	USP <467> by GC-MS	5 ppm	NMT 100 ppm	< LOQ	PASS
1,4-Dioxane	USP <467> by GC-MS	19 ppm	NMT 380 ppm	< LOQ	PASS
2-Hexanone	USP <467> by GC-MS	2.5 ppm	NMT 50 ppm	< LOQ	PASS
4-methyl-2- pentanone	USP <467> by GC-MS	225 ppm	NMT 4,500 ppm	< LOQ	PASS
Acetonitrile	USP <467> by GC-MS	20.5 ppm	NMT 410 ppm	< LOQ	PASS
Chlorobenzene	USP <467> by GC-MS	18 ppm	NMT 360 ppm	< LOQ	PASS
Chloroform	USP <467> by GC-MS	3 ppm	NMT 60 ppm	< LOQ	PASS
Cumene	USP <467> by GC-MS	3.5 ppm	NMT 70 ppm	< LOQ	PASS
Cyclohexane	USP <467> by GC-MS	194 ppm	NMT 3,880 ppm	< LOQ	PASS
Dichloromethane	USP <467> by GC-MS	30 ppm	NMT 600 ppm	< LOQ	PASS
Ethylbenzene	USP <467> by GC-MS	108.5 ppm	NMT 2,170 ppm	< LOQ	PASS
Hexane, n-	USP <467> by GC-MS	14.5 ppm	NMT 290 ppm	< LOQ	PASS
Methanol	USP <467> by GC-MS	150 ppm	NMT 3,000 ppm	< LOQ	PASS

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Methylcyclohexane	USP <467> by GC-MS	59 ppm	NMT 1,180 ppm	606.8 ppm	PASS
Nitromethane	USP <467> by GC-MS	2.5 ppm	NMT 50 ppm	< LOQ	PASS
Pyridine	USP <467> by GC-MS	10 ppm	NMT 200 ppm	< LOQ	PASS
Sulfolane	USP <467> by GC-MS	8 ppm	NMT 160 ppm	< LOQ	PASS
Tetrahydrofuran	USP <467> by GC-MS	36 ppm	NMT 720 ppm	< LOQ	PASS
Toluene	USP <467> by GC-MS	44.5 ppm	NMT 890 ppm	< LOQ	PASS
Trichloroethene	USP <467> by GC-MS	4 ppm	NMT 80 ppm	< LOQ	PASS
Xylene, m-	USP <467> by GC-MS	108.5 ppm	NMT 2,170 ppm	< LOQ	PASS
Xylene, o-	USP <467> by GC-MS	108.5 ppm	NMT 2,170 ppm	< LOQ	PASS
Xylene, p-	USP <467> by GC-MS	108.5 ppm	NMT 2,170 ppm	< LOQ	PASS
1-Butanol	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
1-Pentanol	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
1-Propanol	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
2-Butanol	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
2-Butanone	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
2-methyl-1-propanol	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
2-Propanol	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
3-methyl-1-butanol	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
Acetone	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
Anisole	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
Butyl acetate	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
Ethanol	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
Ethyl acetate	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
Ethyl ether	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
Ethyl formate	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
Heptane, n-	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	378.12 ppm	PASS
Isobutyl acetate	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS

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Isopropyl acetate	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
Methyl acetate	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
N,N-Dimethylsulfoxide	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
Pentane, n-	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
Propyl acetate	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
t-Butyl Methyl Ether	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
Triethylamine	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
Butane, iso-	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
Butane, n-	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
Propane	USP <467> by GC-MS	250 ppm	NMT 5,000 ppm	< LOQ	PASS
1,1-Dichloroethene	USP <467> by GC-MS	0.4 ppm	NMT 8 ppm	< LOQ	PASS
1,1,1-Trichloroethane	USP <467> by GC-MS	75 ppm	NMT 1,500 ppm	< LOQ	PASS

PESTICIDES ASSAY

Analysis	Test Method	LOQ	Specifications	Test Results	Pass / Fail
Acetamiprid	LC-MS/MS & GC-MS/MS	0.050 ppm	NMT 0.200 ppm	< LOQ	PASS
Aldicarb	LC-MS/MS & GC-MS/MS	0.050 ppm	NMT 0.400 ppm	< LOQ	PASS
Azoxystrobin	LC-MS/MS & GC-MS/MS	0.010 ppm	NMT 0.200 ppm	< LOQ	PASS
Bifenazate	LC-MS/MS & GC-MS/MS	0.005 ppm	NMT 0.200 ppm	< LOQ	PASS
Boscalid	LC-MS/MS & GC-MS/MS	0.050 ppm	NMT 0.200 ppm	< LOQ	PASS
Carbaryl (Sevin)	LC-MS/MS & GC-MS/MS	0.100 ppm	NMT 0.500 ppm	< LOQ	PASS
Carbofuran	LC-MS/MS & GC-MS/MS	0.050 ppm	NMT 0.200 ppm	< LOQ	PASS
Chlorantraniliprole	LC-MS/MS & GC-MS/MS	0.100 ppm	NMT 0.200 ppm	< LOQ	PASS
Chlorpyrifos	LC-MS/MS & GC-MS/MS	0.050 ppm	NMT 0.600 ppm	< LOQ	PASS
Cypermethrin	LC-MS/MS & GC-MS/MS	0.025 ppm	NMT 18.0 ppm	< LOQ	PASS
Diazinon	LC-MS/MS & GC-MS/MS	0.050 ppm	NMT 2.600 ppm	< LOQ	PASS
Dichlorvos	LC-MS/MS & GC-MS/MS	0.050 ppm	NMT 0.100 ppm	< LOQ	PASS
Ethoprophos (Prophos)	LC-MS/MS & GC-MS/MS	0.050 ppm	NMT 0.400 ppm	< LOQ	PASS

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PESTICIDES ASSAY					
Analysis	Test Method	LOQ	Specifications	Test Results	Pass / Fail
Etofenprox	LC-MS/MS & GC-MS/MS	0.050 ppm	NMT 0.400 ppm	< LOQ	PASS
Fipronil	LC-MS/MS & GC-MS/MS	0.050 ppm	NMT 1.000 ppm	< LOQ	PASS
Flonicamid	LC-MS/MS & GC-MS/MS	0.050 ppm	NMT 1.000 ppm	< LOQ	PASS
Imidacloprid	LC-MS/MS & GC-MS/MS	0.005 ppm	NMT 0.400 ppm	< LOQ	PASS
Metalaxyl	LC-MS/MS & GC-MS/MS	0.100 ppm	NMT 0.200 ppm	< LOQ	PASS
Methiocarb	LC-MS/MS & GC-MS/MS	0.050 ppm	NMT 0.400 ppm	< LOQ	PASS
Methomyl	LC-MS/MS & GC-MS/MS	0.200 ppm	NMT 0.400 ppm	< LOQ	PASS
Methyl parathion	LC-MS/MS & GC-MS/MS	0.050 ppm	NMT 8.500 ppm	< LOQ	PASS
Myclobutanil	LC-MS/MS & GC-MS/MS	0.005 ppm	NMT 0.300 ppm	< LOQ	PASS
Oxamyl	LC-MS/MS & GC-MS/MS	0.250 ppm	NMT 1.000 ppm	< LOQ	PASS
Permethrin (mix of isomers)	LC-MS/MS & GC-MS/MS	0.020 ppm	NMT 1.100 ppm	< LOQ	PASS
Pyridaben	LC-MS/MS & GC-MS/MS	0.050 ppm	NMT 0.200 ppm	< LOQ	PASS
Spiroxamine	LC-MS/MS & GC-MS/MS	0.050 ppm	NMT 2.000 ppm	< LOQ	PASS
Tebuconazole	LC-MS/MS & GC-MS/MS	0.005 ppm	NMT 0.400 ppm	< LOQ	PASS
Thiacloprid	LC-MS/MS & GC-MS/MS	0.050 ppm	NMT 0.200 ppm	< LOQ	PASS
Thiamethoxam	LC-MS/MS & GC-MS/MS	0.025 ppm	NMT 0.200 ppm	< LOQ	PASS

MYCOTOXINS ASSAY					
Analysis	Test Method	LOQ	Specifications	Test Results	Pass / Fail
Total Aflatoxins	LC-MS/MS	5 ppb	NMT 20 ppb (20 mcg/mL)	< LOQ	PASS
Aflatoxin B1	LC-MS/MS	5 ppb	Report Only	< LOQ	Results Reported
Aflatoxin B2	LC-MS/MS	5 ppb	Report Only	< LOQ	Results Reported
Aflatoxin G1	LC-MS/MS	5 ppb	Report Only	< LOQ	Results Reported
Aflatoxin G2	LC-MS/MS	5 ppb	Report Only	< LOQ	Results Reported
Ochratoxin A	LC-MS/MS	5 ppb	NMT 20 ppb (20 mcg/mL)	< LOQ	PASS



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HEAVY METALS ASSAY					
Analysis	Test Method	LOQ	Specifications	Test Results	Pass / Fail
Lead	USP <232> <233> by ICP-MS	10 ppb	NMT 1,000 ppb	< LOQ	PASS
Mercury	USP <232> <233> by ICP-MS	5 ppb	NMT 500 ppb	< LOQ	PASS
Arsenic	USP <232> <233> by ICP-MS	10 ppb	NMT 1,500 ppb	< LOQ	PASS
Cadmium	USP <232> <233> by ICP-MS	10 ppb	NMT 300 ppb	< LOQ	PASS

MICROBIOLOGICAL ASSAY					
Analysis	Test Method	LOQ	Specifications	Test Results	Pass / Fail
Total Aerobic Plate Count (TAPC)	Isolation Agar	10 CFU/gm	NMT 1,000 CFU/gm	< LOQ	PASS
Total Yeast & Mold (TYM)	Isolation Agar	10 CFU/gm	NMT 100 CFU/gm	< LOQ	PASS
Escherichia coli (E. coli)	Isolation Agar	1 CFU/gm	Absent	Absent	PASS
Campylobacter	Isolation Agar	1 CFU/gm	Absent	Absent	PASS
Listeria Monocytogenes	Isolation Agar	1 CFU/gm	Absent	Absent	PASS
Salmonella	Isolation Agar	1 CFU/gm	Absent	Absent	PASS
Shiga-Toxin E.coli (STEC)	Isolation Agar	1 CFU/gm	Absent	Absent	PASS
Staphylococcus aureus	Isolation Agar	1 CFU/gm	Absent	Absent	PASS
Yersinia	Isolation Agar	1 CFU/gm	Absent	Absent	PASS

TESTING FACILITY INFORMATION	SAMPLE INFORMATION
Santé Laboratories 8201 East Riverside Drive, STE 650 Austin, Texas 78744 USA	Santé Sample ID: 210123 Receipt Date: 01/20/2021 / 2:00 PM CST / S. ORTEGA Receipt Condition: Good Analysis Start Date: 01/20/2021

ADDITIONAL REPORT NOTES
The reported results presented in this document is only applicable to samples submitted to Santé Laboratories for testing and may not represent the entire lot and/or batch produced by the manufacturer. Specifications for microbiology, pesticides, solvents, and heavy metals according to limits defined by Texas DSHS for Consumable Hemp. ©2020 Santé Laboratories, LLC – All Rights Reserved

VERSION HISTORY		
Version	Effective Date	Summary of Changes
00	01/31/2021	Initial Release



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PRODUCT SAMPLE / IMAGE



REVIEWED AND APPROVED BY

DocuSigned by:		
<i>Brian Sloat</i>	1/31/2021	DD-MM-YY
1DA7685D65C740B...	Date	
Brian Sloat, Ph.D.		
Chief Scientific Officer / Quality Manager		
Santé Laboratories		