



License No. 800025015
FL License # CMTL-0003
CLIA No. 10D1094068

Certificate of Analysis

R&D

HBH
220 W Brandon Blvd
Brandon, FL 33511

Batch # PWOG21
Batch Date: 2021-11-01
Extracted From: Industrial Hemp

Test Reg State: Florida

Order # HBH211210-030001
Order Date: 2021-12-10
Sample # AACG317

Sampling Date: 2021-12-10
Lab Batch Date: 2021-12-10
Completion Date: 2021-12-16

Initial Gross Weight: 20.665 g

Potency
Tested



Potency - 20

Specimen Weight: 194.890 mg

Tested
(HPLC)

Analyte	Dilution (1:n)	LOD (%)	LOQ (%)	Result (mg/g)	(%)
CBDA	1500.000	0.00001	0.002	79.710	7.971
CBDVA	1500.000	0.000014	0.002	68.240	6.824
CBCA	15.000	0.000107	0.002	4.409	0.441
CBD	15.000	0.000054	0.002	3.422	0.342
THCA-A	15.000	0.000032	0.002	2.891	0.289
CBGA	15.000	0.00008	0.002	2.686	0.269
THCVA	15.000	0.000047	0.002	2.635	0.264
CBDV	15.000	0.000065	0.002	2.366	0.237
CBT	15.000	0.0002	0.002	0.786	0.079
CBG	15.000	0.000248	0.002	0.423	0.042
THCV	15.000	0.000007	0.002	0.405	0.041
Delta-9 THC	15.000	0.000013	0.002	0.336	0.034
CBC	15.000	0.000018	0.002	0.290	0.029
Delta-10 THC	15.000	0.000003	0.002	0.147	0.015
Exo-THC	15.000	0.00023	0.002		<LOQ
Delta-8 THC	15.000	0.000026	0.002		<LOQ
CBNA	15.000	0.000095	0.002		<LOQ
CBN	15.000	0.000014	0.002		<LOQ
CBL	15.000	0.000035	0.002		<LOQ
Delta-8 THCV	15.000	0.00004	0.002		<LOQ

Potency Summary

Total THC 0.287%	Total CBD 7.333%
Total CBG 0.278%	Total CBN None Detected
Other Cannabinoids 6.952%	Total Cannabinoids 14.850%

Xueli Gao
Ph.D., DABT
Lab Toxicologist

Aixia Sun
D.H.Sc., M.Sc., B.Sc., MT (AAB)
Lab Director/Principal Scientist



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Batch # PWOG21
Batch Date: 2021-11-01
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Test Reg State: Florida

Order # HBH211216-020001
Order Date: 2021-12-16
Sample # AACH018

Sampling Date: 2021-12-16
Lab Batch Date: 2021-12-16
Completion Date: 2021-12-21

Initial Gross Weight: 20.665 g



Terpenes
Tested



Heavy Metals
Passed



Mycotoxins
Passed



Pesticides
Passed



Listeria
Monocytogenes
Passed



Pathogenic
Passed

Potency Panel Not Included

Terpenes Summary

Analyte	Result (mg/g)	(%)
beta-Myrcene	9.122	0.912%
Farnesene	7.741	0.774%
trans-Caryophyllene	4.511	0.451%
alpha-Pinene	2.081	0.208%
alpha-Humulene	1.756	0.176%
(R)-(+)-Limonene	1.537	0.154%
alpha-Bisabolol	0.956	0.096%
beta-Pinene	0.664	0.066%
Linalool	0.65	0.065%
Guaiol	0.591	0.059%
Caryophyllene oxide	0.532	0.053%
Ocimene	0.401	0.04%
Hexahydrothymol	0.387	0.039%
Fenchyl Alcohol	0.359	0.036%

Total Terpenes: 3.129%

Detailed Terpenes Analysis is on the following page

Xueli Gao
Ph.D., DABT
Lab Toxicologist

Aixia Sun
D.H.Sc., M.Sc., B.Sc., MT (AAB)
Lab Director/Principal Scientist



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Brandon, FL 33511

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Extracted From: Industrial Hemp

Test Reg State: Florida

Order # HBH211216-020001
Order Date: 2021-12-16
Sample # AACH018

Sampling Date: 2021-12-16
Lab Batch Date: 2021-12-16
Completion Date: 2021-12-21

Initial Gross Weight: 20.665 g



Terpenes

Specimen Weight: 146.730 mg

Tested
(GC/GCMS)

Dilution Factor: 30.000

Analyte	LOQ (%)	Result (mg/g)	(%)	Analyte	LOQ (%)	Result (mg/g)	(%)
beta-Myrcene	0.002	9.122	0.912	Farnesene	0.002	7.741	0.774
trans-Caryophyllene	0.002	4.511	0.451	alpha-Pinene	0.002	2.081	0.208
alpha-Humulene	0.002	1.756	0.176	(R)-(+)-Limonene	0.002	1.537	0.154
alpha-Bisabolol	0.002	0.956	0.096	beta-Pinene	0.002	0.664	0.066
Linalool	0.002	0.650	0.065	Guaiol	0.002	0.591	0.059
Caryophyllene oxide	0.002	0.532	0.053	Ocimene	0.000	0.401	0.040
Hexahydrothymol	0.002	0.387	0.039	Fenchyl Alcohol	0.002	0.359	0.036
Sabinene	0.002	<LOQ		Pulegone	0.002	<LOQ	
Sabinene Hydrate	0.002	<LOQ		Nerol	0.002	<LOQ	
Terpinolene	0.002	<LOQ		Isopulegol	0.002	<LOQ	
Total Terpineol	0.001	<LOQ		trans-Nerolidol	0.002	<LOQ	
Isoborneol	0.002	<LOQ		(+)-Cedrol	0.002	<LOQ	
Fenchone	0.002	<LOQ		Geranyl acetate	0.002	<LOQ	
3-Carene	0.002	<LOQ		alpha-Cedrene	0.002	<LOQ	
alpha-Phellandrene	0.002	<LOQ		alpha-Terpinene	0.002	<LOQ	
Geraniol	0.002	<LOQ		Borneol	0.004	<LOQ	
Camphene	0.002	<LOQ		Camphors	0.006	<LOQ	
cis-Nerolidol	0.002	<LOQ		Eucalyptol	0.002	<LOQ	
Gamma-Terpinene	0.002	<LOQ		Valencene	0.002	<LOQ	

Total Terpenes: 3.129%

Xueli Gao
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Lab Toxicologist
Ph.D., DABT

Aixia Sun
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Lab Director/Principal Scientist
D.H.Sc., M.Sc., B.Sc., MT (AAB)



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Extracted From: Industrial Hemp

Test Reg State: Florida

Order # HBH211216-020001
Order Date: 2021-12-16
Sample # AACH018

Sampling Date: 2021-12-16
Lab Batch Date: 2021-12-16
Completion Date: 2021-12-21

Initial Gross Weight: 20.665 g



Heavy Metals

Specimen Weight: 252.200 mg

Passed
(ICP-MS)

Dilution Factor: 2.000

Analyte	LOQ (ppb)	Action Level (ppb)	Result (ppb)	Analyte	LOQ (ppb)	Action Level (ppb)	Result (ppb)
Arsenic (As)	100	1500	<LOQ	Cadmium (Cd)	100	500	<LOQ
Lead (Pb)	100	500	<LOQ	Mercury (Hg)	100	3000	<LOQ



Mycotoxins

Specimen Weight: 156.600 mg

Passed
(LCMS)

Dilution Factor: 9.579

Analyte	LOQ (ppb)	Action Level (ppb)	Result (ppb)	Analyte	LOQ (ppb)	Action Level (ppb)	Result (ppb)
Aflatoxin B1	6	20	<LOQ	Aflatoxin B2	6	20	<LOQ
Aflatoxin G1	6	20	<LOQ	Aflatoxin G2	6	20	<LOQ
Ochratoxin A	12	20	<LOQ				

Xueli Gao
Xueli Gao Lab Toxicologist
Ph.D., DABT

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Aixia Sun Lab Director/Principal Scientist
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Test Reg State: Florida

Order # HBH211216-020001
Order Date: 2021-12-16
Sample # AACH018

Sampling Date: 2021-12-16
Lab Batch Date: 2021-12-16
Completion Date: 2021-12-21

Initial Gross Weight: 20.665 g



Pesticides FL V4

Specimen Weight: 156.600 mg

Passed
(LCMS/GCMS)

Dilution Factor: 9.579

Analyte	LOQ (ppb)	Action Level (ppb)	Result (ppb)	Analyte	LOQ (ppb)	Action Level (ppb)	Result (ppb)
Abarnectin	28.23	300	<LOQ	Acephate	30	3000	<LOQ
Acequinocyl	48	2000	<LOQ	Acetamiprid	30	3000	<LOQ
Aldicarb	30	100	<LOQ	Azoxystrobin	10	3000	<LOQ
Bifenazate	30	3000	<LOQ	Bifenthrin	30	500	<LOQ
Boscalid	10	3000	<LOQ	Captan	30	3000	<LOQ
Carbaryl	10	500	<LOQ	Carbofuran	10	100	<LOQ
Chlorantranilprole	10	3000	<LOQ	Chlordane	10	100	<LOQ
Chlorfenapyr	30	100	<LOQ	Chlormequat Chloride	10	3000	<LOQ
Chlorpyrifos	30	100	<LOQ	Clofentezine	30	500	<LOQ
Coumaphos	48	100	<LOQ	Cyfluthrin	30	1000	<LOQ
Cypermethrin	30	1000	<LOQ	Daminozide	30	100	<LOQ
Diazinon	30	200	<LOQ	Dichlorvos	30	100	<LOQ
Dimethoate	30	100	<LOQ	Dimethomorph	48	3000	<LOQ
Ethoprophos	30	100	<LOQ	Etofenprox	30	100	<LOQ
Etoxazole	30	1500	<LOQ	Fenhexamid	10	3000	<LOQ
Fenoxycarb	30	100	<LOQ	Fenpyroximate	30	2000	<LOQ
Fipronil	30	100	<LOQ	Flonicamid	30	2000	<LOQ
Fludioxonil	48	3000	<LOQ	Hexythiazox	30	2000	<LOQ
Imazail	30	100	<LOQ	Imidacloprid	30	3000	<LOQ
Kresoxim Methyl	30	1000	<LOQ	Malathion	30	2000	<LOQ
Metaxalyl	10	3000	<LOQ	Methiocarb	30	100	<LOQ
Methomyl	30	100	<LOQ	methyl-Parathion	10	100	<LOQ
Mevinphos	10	100	<LOQ	Myclobutanil	30	3000	<LOQ
Naled	30	500	<LOQ	Oxamyl	30	500	<LOQ
Paclotrtrazol	30	100	<LOQ	Pentachloronitrobenzene	10	200	<LOQ
Permethrin	30	1000	<LOQ	Phosmet	30	200	<LOQ
Piperonylbutoxide	30	3000	<LOQ	Prallethrin	30	400	<LOQ
Propiconazole	30	1000	<LOQ	Propoxur	30	100	<LOQ
Pyrethrins	30	1000	<LOQ	Pyridaben	30	3000	<LOQ
Spinetoram	10	3000	<LOQ	Spinosad	30	3000	<LOQ
Spiromesifen	30	3000	<LOQ	Spirotetramat	30	3000	<LOQ
Spiroxamine	30	100	<LOQ	Tebuconazole	30	1000	<LOQ
Thiacloprid	30	100	<LOQ	Thiamethoxam	30	1000	<LOQ
Trifloxystrobin	30	3000	<LOQ				

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 Sample # AACH018

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 Completion Date: 2021-12-21

Initial Gross Weight: 20.665 g



Listeria Monocytogenes

Specimen Weight: 1009.240 mg

Passed
(qPCR)

Dilution Factor: 1.000

Analyte	Action Level (cfu/g)	Result
Listeria Monocytogenes	1	Absence in 1g



Pathogenic SAE (qPCR)

Specimen Weight: 251.260 mg

Passed
(qPCR)

Dilution Factor: 1.000

Analyte	Action Level (cfu/g)	Result (cfu/g)	Analyte	Action Level (cfu/g)	Result (cfu/g)
Aspergillus (Flavus, Fumigatus, Niger, Terreus)	1	Absence in 1g	E.Coli	1	Absence in 1g
			Salmonella	1	Absence in 1g

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