



ORELAP Cert No. 4092-002
OLCC No. 1002158CD2E

**Hemp Potency Analysis by
 High Performance Liquid Chromatography**

Testing Accreditation #: 4092-002

Test Certificate #: 114529-001

Client Name, Sample Details

Black Tie CBD, LLC
Sample: The Jack
Type: Industrial Hemp **Method:**
 FE58 HPLC1100-OR1
*****Moisture:** 10.62%

Test Conditions

Scale: XS205-OR1
Temp: 21.8 °C
Baro Pressure: 1014 hPa
Analyst: HRM
Technician: EDT

Sample ID#: 114529

Lot #: R&D
Batch #: 114529
Harvest/Process Date: 01/16/2019
Date Received: 01/17/2019
Test Date: 01/23/2019
Valid Through: 01/23/2020



Test Compounds	CBDV	CBDA	CBD	CBC	CBG	CBN	THC	THCA	THCV	Total THC	Total CBD
Amount	N/D	23.82%	0.82%	0.11%	0.07%	N/D	N/D	0.86%	N/D	0.75%	21.71%
LOQ	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%		
Uncertainty	±5% RPD	±5% RPD	±5% RPD	±5% RPD	±5% RPD	±5% RPD	±5% RPD	±5% RPD	±5% RPD		

THC = Delta-9-THC

LOQ = Limit of Quantitation

RPD is relative percent difference between the LCS and LCS duplicate.

%RPD = Relative Percent Difference; Min. Value = Minimum Detectable Amount, CFU = Colony Forming Units, N/D = Not Detected

*** Designated tests that use the method FE-45.

This sample has not been tested according to OAR 333-007. These results should therefore be used for research and development or quality control purposes only.

This certificate shall not be reproduced except in full, without written approval of Iron Laboratories, LLC.

Joseph Rutkowski, Quality Manager



Hfmashi Mead, Technical Manager

Iron Labs Oregon complies with 2009 TNI Environmental Laboratory Standards.

Tested by Iron Laboratories Oregon, 71 Centennial Loop Suite D Eugene, OR 97401



ORELAP Cert No. 4092-002
OLCC No. 1002158CD2E

**Pesticide Analysis by
 Mass Spectrometer**

Testing Accreditation #: 4092-002

Test Certificate #: 114517-001

Client Name, Sample Details
Black Tie CBD, LLC
Sample: The Jack
Type: Industrial Hemp
Method: FE-52 (EN 15662 & AOAC 2007.01)

Test Conditions
Prepsheet ID#: ORPS190123a
Scale: Veritas-OR1
Temp: 21.4 °C
Baro PE: 1014 hPa
Analyst: JDM
Technician: JDM

Sample ID#: 114517
Lot #: R&D
Batch #: 114517
Harvest/Process Date: 01/16/2019
Date Received: 01/17/2019
Test Date: 01/24/2019
Valid Through: 01/24/2020

Compound	MRL (µg/g)	LOD (µg/g)	Status (µg/g)	Compound	MRL (µg/g)	LOD (µg/g)	Status (µg/g)
Aldicarb	0.400	0.120	Pass/<LOD	Abamectin****	0.500	0.120	Pass/<LOD
Acephate	0.400	0.120	Pass/<LOD	Acequinocyl	2.000	0.239	Pass/<LOD
Acetamiprid	0.200	0.120	Pass/<LOD	Azoxystrobin	0.200	0.120	Pass/<LOD
Bifenazate	0.200	0.120	Pass/<LOD	Bifenthrin	0.200	0.120	Pass/<LOD
Boscalid	0.400	0.120	Pass/<LOD	Carbaryl	0.200	0.120	Pass/<LOD
Carbofuran	0.200	0.120	Pass/<LOD	Chlorantranilprole	0.200	0.120	Pass/<LOD
Chlorfenapyr	1.000	0.478	Pass/<LOD	Chlorpyrifos	0.200	0.120	Pass/<LOD
Clofentezine	0.200	0.120	Pass/<LOD	Cyfluthrin**	1.000	0.478	Pass/<LOD
Cypermethrin***	1.000	0.478	Pass/<LOD	Daminozide	1.000	0.120	Pass/<LOD
DDVP (Dichlorvos)	1.000	0.239	Pass/<LOD	Diazinon	0.200	0.120	Pass/<LOD
Dimethoate	0.200	0.120	Pass/<LOD	Ethoprophos	0.200	0.120	Pass/<LOD
Etofenprox	0.400	0.120	Pass/<LOD	Etoazole	0.200	0.120	Pass/<LOD
Fenoxycarb	0.200	0.120	Pass/<LOD	Fenpyroximate	0.400	0.120	Pass/<LOD
Fipronil	0.400	0.120	Pass/<LOD	Fonicamid	1.000	0.120	Pass/<LOD
Fludioxonil	0.400	0.120	Pass/<LOD	Hexythiazox	1.000	0.120	Pass/<LOD
Imazalil	0.200	0.120	Pass/<LOD	Imidacloprid	0.400	0.120	Pass/<LOD
Kresoxim Methyl	0.400	0.120	Pass/<LOD	Malathion	0.200	0.120	Pass/<LOD
Metalaxyl	0.200	0.120	Pass/<LOD	Methiocarb	0.200	0.120	Pass/<LOD
Methomyl	0.400	0.120	Pass/<LOD	Methyl Parathion	0.200	0.120	Pass/<LOD
MGK-264‡	0.200	0.120	Pass/<LOD	Myclobutanil	0.000	0.120	Pass/<LOD
Naled	0.500	0.120	Pass/<LOD	Oxamyl	1.000	0.120	Pass/<LOD
Paclobutrazol	0.400	0.120	Pass/<LOD	Permethrin†	0.200	0.120	Pass/<LOD
Phosmet	0.200	0.120	Pass/<LOD	Piperonyl Butoxide	2.000	0.120	Pass/<LOD
Prallethrin	0.200	0.120	Pass/<LOD	Propiconazole	0.400	0.120	Pass/<LOD
Propoxur	0.200	0.120	Pass/<LOD	Pyrethrins*	1.000	0.120	Pass/<LOD
Pyridaben	0.200	0.120	Pass/<LOD	Spinosad*****	0.200	0.120	Pass/<LOD
Spiromesifen	0.200	0.120	Pass/<LOD	Spirotetramat	0.200	0.120	Pass/<LOD
Spiroxamine‡	0.400	0.120	Pass/<LOD	Tebuconazole	0.400	0.120	Pass/<LOD
Fenoxycarb	0.200	0.120	Pass/<LOD	Thiamethoxam	0.200	0.120	Pass/<LOD
Trifloxystrobin	0.200	0.120	Pass/<LOD				

* Pyrethrins are reported as the sum of Jasmolin I, Cinerin I, and Pyrethrin I
 ** Cyfluthrins are reported as the sum of isomers Cyfluthrin I, II, III, and IV
 *** Cypermethrins are reported as the sum of isomers Cypermethrin I, II, III, and IV
 **** Abamectin is reported as the sum of Avermectin B1a and Avermectin B1b
 ***** Spinosad is reported as the sum of Spinosyn A and Spinosyn D
 † Permethrin and Prallethrin are reported as the sum of cis and trans isomers
 ‡ MGK-264 and Spiroximine are reported as the sum of isomers I and II
 MRL - Maximum Residue Limit; LOD - Limit of Detection

This sample has not been tested according to OAR 333-007. These results should therefore be used for research and development or quality control purposes only.

This certificate shall not be reproduced except in full, without written approval of Iron Laboratories, LLC.

Joseph Rutkowski, Quality Manager



Himashi Mead, Technical Manager

Iron Labs Oregon complies with 2009 TNI Environmental Laboratory Standards.

Tested by Iron Laboratories Oregon, 71 Centennial Loop Suite D Eugene, OR 97401



ORELAP Cert No. 4092-002
OLCC No. 1002158CD2E

Pesticide QC Report

Testing Accreditation #: 4092-002

Test Certificate #: 114517-001

Client Name, Sample Details
Black Tie CBD, LLC
Sample: The Jack
Type: Industrial Hemp
Method: FE-52 (EN 15662 & AOAC 2007.01)

Test Conditions
Prepsheet ID#: ORPS190123a
Scale: Veritas-OR1
Temp: 21.4 °C
Baro PE: 1014 hPa
Analyst: JDM
Technician: JDM

Sample ID#: 114517
Lot #: R&D
Batch #: 114517
Harvest/Process Date: 01/16/2019
Date Received: 01/17/2019
Test Date: 01/24/2019
Valid Through: 01/24/2020

Target Compound Name	Method Blank (µg/g)	QC Spike (µg/g)	Matrix Spike (µg/g)	Matrix Spike Duplicate (µg/g)	MS recovery%	MSD recovery%	Relative Percent Difference (%)	QC Flag
Acephate	N.D.	1	0.911	0.968	91.10	96.80	6.07	
Acequinocyl	N.D.	1	0.765	0.705	76.50	70.50	8.16	
Acetamiprid	N.D.	1	0.91	0.88	91.00	88.00	3.35	
Aldicarb	N.D.	1	0.979	0.937	97.90	93.70	4.38	
Avermectin B1a	N.D.	0.97	0.851	0.939	87.73	96.80	9.83	
Azoxystrobin	N.D.	1	0.714	0.71	71.40	71.00	0.56	
Bifenazate	N.D.	1	0.605	0.719	60.50	71.90	17.22	LR
Bifenthrin	N.D.	1	0.738	0.81	73.80	81.00	9.30	
Boscalid	N.D.	1	0.668	0.77	66.80	77.00	14.19	LR
Carbaryl	N.D.	1	0.926	0.913	92.60	91.30	1.41	
Carbofuran	N.D.	1	0.9	0.867	90.00	86.70	3.74	
Chlorantraniliprole	N.D.	1	0.6	0.702	60.00	70.20	15.67	LR
Chlorfenapyr	N.D.	1	0.854	0.802	85.40	80.20	6.28	
Chlorpyrifos	N.D.	1	0.86	0.939	86.00	93.90	8.78	
Clofentezine	N.D.	1	0.565	0.684	56.50	68.40	19.06	LR
Cyfluthrin	N.D.	1	0.694	0.788	69.40	78.80	12.69	LR
Cypermethrin	N.D.	1	0.746	0.857	74.60	85.70	13.85	
Daminoside	N.D.	1	0.426	0.468	42.60	46.80	9.40	LR
Diazanone	N.D.	1	0.562	0.668	56.20	66.80	17.24	LR
Dichlorvos	N.D.	1	0.843	0.857	84.30	85.70	1.65	
Dimethoate	N.D.	1	0.909	0.857	90.90	85.70	5.89	
Ethoprophos	N.D.	1	0.703	0.674	70.30	67.40	4.21	LR
Etofenprox	N.D.	1	0.827	0.81	82.70	81.00	2.08	
Etoxazole	N.D.	1	0.881	0.944	88.10	94.40	6.90	
Fenoxycarb	N.D.	1	0.624	0.746	62.40	74.60	17.81	LR
Fenpyroximate	N.D.	1	0.966	0.959	96.60	95.90	0.73	
Fipronil	N.D.	1	0.939	0.95	93.90	95.00	1.16	
Flonicamid	N.D.	1	0.855	0.829	85.50	82.90	3.09	
Fludioxonil	N.D.	1	1	0.94	100.00	94.00	6.19	
Hexythiazox	N.D.	1	0.592	0.545	59.20	54.50	8.27	LR
Imazalil	N.D.	1	0.633	0.755	63.30	75.50	17.58	LR
Imidacloprid	N.D.	1	0.83	0.895	83.00	89.50	7.54	
Kresoxim-methyl	N.D.	1	0.569	0.674	56.90	67.40	16.89	LR
Malathion	N.D.	1	0.653	0.789	65.30	78.90	18.86	LR
Metalaxyl	N.D.	1	0.73	0.813	73.00	81.30	10.76	
Methiocarb	N.D.	1	0.838	0.762	83.80	76.20	9.50	
Methomyl	N.D.	1	0.713	0.887	71.30	88.70	21.75	Q
MGK-264	N.D.	1	0.573	0.68	57.30	68.00	17.08	LR
Myclobutanil	N.D.	1	0.654	0.803	65.40	80.30	20.45	LRQ
Naled (dibrom)	N.D.	1	0.692	0.647	69.20	64.70	6.72	LR
Oxamyl	N.D.	1	0.839	0.839	83.90	83.90	0.00	

Paclobutrazol	N.D.	1	0.638	0.764	63.80	76.40	17.97	LR
Parathion-methyl	N.D.	1	0.836	0.832	83.60	83.20	0.48	
Permethrins	N.D.	1	0.865	0.88	86.50	88.00	1.72	
Phosmet	N.D.	1	0.642	0.768	64.20	76.80	17.87	LR
Piperonyl butoxide	N.D.	1	0.925	0.961	92.50	96.10	3.82	
Prallethrin	N.D.	1	0.543	0.656	54.30	65.60	18.85	LR
Propiconazole	N.D.	1	0.653	0.723	65.30	72.30	10.17	LR
Propoxur	N.D.	1	0.986	0.954	98.60	95.40	3.30	
Pyrethrin	N.D.	0.65	0.428	0.476	65.85	73.23	10.62	LR
Pyridaben	N.D.	1	0.815	0.863	81.50	86.30	5.72	
SpinosynA	N.D.	0.84	0.619	0.702	73.69	83.57	12.57	
SpinosynD	N.D.	0.16	0.135	0.133	84.38	83.13	1.49	
Spiromesifen	N.D.	1	0.365	0.385	36.50	38.50	5.33	LR
Spirotetramat	N.D.	1	0.724	0.742	72.40	74.20	2.46	
Spiroxamine	N.D.	1	0.704	0.808	70.40	80.80	13.76	
Tebuconazole	N.D.	1	0.595	0.744	59.50	74.40	22.26	LRQ
Thiacloprid	N.D.	1	0.776	0.8	77.60	80.00	3.05	
Thiamethoxam	N.D.	1	0.647	0.752	64.70	75.20	15.01	LR
Trifloxystrobin	N.D.	1	0.84	0.838	84.00	83.80	0.24	

N.D. = Not Detected

I = indicates that an amount of an interfering compound greater than the methods limit of detection was detected in the method blank sample. May indicate contamination of analytical system or consumables.

Q = indicates that the relative percent difference of two identically prepared Matrix Spike samples for a target analyte was greater than 20%

R = indicates compound recovery of matrix spike was outside the methods acceptable limits. (70-130%) Low recovery could indicate there is actually more compound present than detected; while high recoveries should be scrutinized for possible fails as more compound may be detected than is actually residual on the sample.

This sample has not been tested according to OAR 333-007. These results should therefore be used for research and development or quality control purposes only.

This certificate shall not be reproduced except in full, without written approval of Iron Laboratories, LLC.



Joseph Rutkowski, Quality Manager




Hfmashi Mead, Technical Manager

Iron Labs Oregon complies with 2009 TNI Environmental Laboratory Standards.

Tested by Iron Laboratories Oregon, 71 Cenntenial Loop Suite D Eugene, OR 97401

Client Name, Sample Details
Black Tie CBD, LLC
Sample: The Jack
Type: Industrial Hemp **Method:**
 SOP FE-44-OR3

Test Conditions
Scale: XS205-OR1
Temp: 19.1 °C
Baro Pressure: 1001 hPa
Analyst: HRM
Technician: HRM

Sample ID#: 114517
Lot #: R&D
Batch #: 114517
Harvest/Process Date: 01/16/2019
Date Received: 01/17/2019

Mono Terpenes

Weight Percentage Dry Matter (wt/wt%)

α-Pinene:	0.110 %	β-Ocimene:	0.070 %
Camphene:	N/D	Eucalyptol (1,8-Cineol):	N/D
Sabinene:	N/D	γ-Terpinene:	N/D
Myrcene:	0.330 %	α-Terpinolene:	0.070 %
β-Pinene:	0.090 %	Linalool:	0.020 %
Δ3-Carene:	N/D	Fenchone:	N/D
α-Terpinene:	0.020 %	Fenchol:	0.020 %
Ocimene:	N/D	Isopulegol:	N/D
Limonene:	0.080 %	Geraniol:	N/D
4-Cymene:	N/D		

Sequi Terpenes

Weight Percentage Dry Matter (wt/wt%)

β-Caryophyllene:	0.140 %
α-Humulene:	0.070 %
Nerolidol 1:	N/D
Nerolidol 2:	N/D
Guaiol:	0.120 %
Caryophyllene Oxide:	0.040 %
α-Bisabolol:	0.100 %

Other Terpenes

a-Phellandrene = 0.10 % a-Terpineol = 0.02 % Valencene = 0.06 %

Total: 1.280%

This certificate shall not be reproduced except in full, without written approval of Iron Laboratories, LLC.



Joseph Rutkowski, Quality Manager




Himashi Mead, Technical Manager

Tested by Iron Laboratories Oregon, 71 Centennial Loop Suite D Eugene, OR 97401