



ORELAP Cert No. 4092-004
OLCC No. 1002158CD2E

**Oregon Compliant Marijuana Potency Analysis by
 High Performance Liquid Chromatography**

Testing Accreditation #: 4092-004

Test Certificate #: 119748-001

Client Name, Sample Details
Pistil Pioneers
 Blachly, OR 97412
Sample: Cannatonic
License: 020-10005453F9C
Type: Usable Marijuana
Method: FE04U
Metrc Test Pkg#: 1A4010300009665000000561
Metrc Source Pkg#: 1A4010300009665000000519
*****Water Activity:** 0.49
*****Moisture:** 11.33%

Test Conditions
Prepsheet ID#: ORP191105a
Scale: XS205-OR1
Temp: 20.8 °C
Baro PE: 1002 hPa
Analyst: HRM
Technician: EDT

Sample ID#: 119748
Lot #: HRVCT_10819
Batch #: 119748
Batch Weight (g): 6810
Harvest/Process Date: 10/08/2019
Serving Size (g): 1
Date Received: 10/30/2019
Test Date: 11/05/2019



Test Compounds	THC	THCA	CBD	CBDA	CBN	CBG	CBC	THCV*	CBDV	Total Cannabinoids*	Total THC	Total CBD	Calc Max Total Cannabinoids*
Amount (%)	N/D	0.76	0.49	22.80	N/D	0.10	N/D	N/D	N/D	24.16	0.67	20.49	21.26
Amount (mg/g)	N/D	7.64	4.93	228.00	N/D	1.00	N/D	N/D	N/D	241.57	6.70	204.89	212.59
Amount per Serving (mg)	N/D	7.64	4.93	228.00	N/D	1.00	N/D	N/D	N/D	241.57	Serving Size~ (g):		1.00
LOQ (mg/g)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05		%Decarb.	THC	CBD
±%RPD	5.14	0.74	+/-5%	0.67	+/-5%	+/-5%	+/-5%	+/-5%	+/-5%			0	0

LOQ = Limit of Quantitation; %RPD = Relative Percent Deviation; %RSD = Relative Standard Deviation; N/D = Not Detected

*Designates values that are not currently included in the accredited scope of Iron Laboratories.

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

Total THC and CBD is the calculated sum of THC or CBD and the amount of THC or CBD derived from THCA or CBDA, respectively. These values are calculated by applying a molar correction factor of 0.877 to the THCA or the CBDA value. Calc Max Total Cannabinoids is the sum of Total THC, Total CBD, CBN, CBG, CBC, THCV, and CBDV.

%Decarb. THC and CBD refers to the percentage of THC or CBD relative to THCA or CBDA, respectively.

SOP FE-01-OR9 was used in accordance with OAR 333-007 for sampling. All marijuana items are sampled and tested in accordance with OAR 333-007-0300 to 333-007-490 and OAR 333-064-0100 to 333-064-0110.

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Himashi Mead, Technical Manager



Joseph Rutkowski, Quality 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. 4092-004
OLCC No. 1002158CD2E

Oregon Compliant QC Report

Testing Accreditation #: 4092-004

Test Certificate #: 119748-001

Client Name, Sample Details
Pistil Pioneers
 Blachly, OR 97412
Sample: Cannatonic
License: 020-10005453F9C
Type: Usable Marijuana
Method: FE04U
Metrc Test Pkg#: 1A4010300009665000000561
Metrc Source Pkg#: 1A4010300009665000000519
*****Water Activity:** 0.49
*****Moisture:** 11.33%

Test Conditions
Prepsheet ID#: ORP191105a
Scale: XS205-OR1
Temp: 20.8 °C
Baro PE: 1002 hPa
Analyst: HRM
Technician: EDT

Sample ID#: 119748
Lot #: HRVCT_10819
Batch #: 119748
Batch Weight (g): 6810
Harvest/Process Date: 10/08/2019
Serving Size (g): 1
Date Received: 10/30/2019
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Target Compound Name	Method Blank (µg/g)	LCS Spike (µg/g)	LCS Amount (µg/g)	Percent Recovery (%) LCS	LCS Duplicate Amount (µg/g)	Percent Recovery (%) LCSD	Relative Percent Difference (%)	QC Flag
Cannabidivarin (CBDV)	N.D.	N.D.	N.D.	0.00	N.D.	0.00	0.00%	
Cannabidiolic Acid (CBDA)	N.D.	1.29	1.48	114.73	1.49	115.50	0.67%	
Cannabigerol (CBG)	N.D.	0.16	0.20	125.00	0.20	125.00	0.00%	
Cannabidiol (CBD)	N.D.	N.D.	N.D.	0.00	N.D.	0.00	0.00%	
Δ9-Tetrahydrocannabivarin (THCV)	N.D.	N.D.	N.D.	0.00	N.D.	0.00	0.00%	
Cannabinol (CBN)	N.D.	0.10	0.07	70.00	0.07	70.00	0.00%	
Δ9-Tetrahydrocannabinol (THC)	N.D.	3.31	3.41	103.02	3.59	108.46	5.14%	
Cannabichromene (CBC)	N.D.	0.08	0.12	150.00	0.12	150.00	0.00%	
Tetrahydrocannabinolic acid (THCA)	N.D.	18.31	19.03	103.93	18.89	103.17	0.74%	

N.D. = Not Detected

LR = indicates compound recovery of matrix spike was outside the methods acceptable limits. (70-130%) Low recovery should be scrutinized for possible fail as it could indicate more compound present than is 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%

HR = indicates compound recovery of matrix spike was outside the methods acceptable limits. (70-130%) high recoveries should be scrutinized for passing as more compound may be detected than is actually present in the sample.

SOP FE-01-OR9 was used in accordance with OAR 333-007 for sampling. All marijuana items are sampled and tested in accordance with OAR 333-007-0300 to 333-007-490 and OAR 333-064-0100 to 333-064-0110.

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Joseph Rutkowski, Quality Manager

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ORELAP Cert No. 4092-004
OLCC No. 1002158CD2E

**Oregon Compliant Pesticide Analysis by
 Mass Spectrometer**

Testing Accreditation #: 4092-004

Test Certificate #: 119748-001

Client Name, Sample Details
Pistil Pioneers
 Blachly, OR 97412
Sample: Cannatonic
License: 020-10005453F9C
Type: Usable Marijuana
Method: FE-52 (EN 15662 & AOAC 2007.01)
Metric Test Pkg#: 1A4010300009665000000561
Metric Source Pkg#: 1A4010300009665000000519

Test Conditions
Prepsheet ID#: ORPS191106a
Scale: Veritas-OR1
Temp: 23.2 °C
Baro PE: 1006 hPa
Analyst: JER
Technician: TMR

Sample ID#: 119748
Lot #: HRVCT_10819
Batch #: 119748
Batch Weight (g): 6810
Harvest/Process Date: 10/08/2019
Serving Size (g): 1
Date Received: 10/30/2019
Test Date: 11/08/2019



Compound	MRL (µg/g)	LOD (µg/g)	Status (µg/g)	Compound	MRL (µg/g)	LOD (µg/g)	Status (µg/g)
Aldicarb	0.400	0.119	Pass/<LOD	Abamectin****	0.500	0.119	Pass/<LOD
Acephate	0.400	0.119	Pass/<LOD	Acequinocyl	2.000	0.239	Pass/<LOD
Acetamiprid	0.200	0.119	Pass/<LOD	Azoxystrobin	0.200	0.119	Pass/<LOD
Bifenazate	0.200	0.119	Pass/<LOD	Bifenthrin	0.200	0.119	Pass/<LOD
Boscalid	0.400	0.119	Pass/<LOD	Carbaryl	0.200	0.119	Pass/<LOD
Carbofuran	0.200	0.119	Pass/<LOD	Chlorantraniliprole	0.200	0.119	Pass/<LOD
Chlorfenapyr	1.000	0.477	Pass/<LOD	Chlorpyrifos	0.200	0.119	Pass/<LOD
Clofentazine	0.200	0.119	Pass/<LOD	Cyfluthrin**	1.000	0.477	Pass/<LOD
Cypermethrin***	1.000	0.477	Pass/<LOD	Daminozide	1.000	0.119	Pass/<LOD
DDVP (Dichlorvos)	1.000	0.239	Pass/<LOD	Diazinon	0.200	0.119	Pass/<LOD
Dimethoate	0.200	0.119	Pass/<LOD	Ethoprophos	0.200	0.119	Pass/<LOD
Etofenprox	0.400	0.119	Pass/<LOD	Etoxazole	0.200	0.119	Pass/<LOD
Fenoxycarb	0.200	0.119	Pass/<LOD	Fenpyroximate	0.400	0.119	Pass/<LOD
Fipronil	0.400	0.119	Pass/<LOD	Flonicamid	1.000	0.119	Pass/<LOD
Fludioxonil	0.400	0.119	Pass/<LOD	Hexythiazox	1.000	0.119	Pass/<LOD
Imazalil	0.200	0.119	Pass/<LOD	Imidacloprid	0.400	0.119	Pass/<LOD
Kresoxim Methyl	0.400	0.119	Pass/<LOD	Malathion	0.200	0.119	Pass/<LOD
Metalaxyl	0.200	0.119	Pass/<LOD	Methiocarb	0.200	0.119	Pass/<LOD
Methomyl	0.400	0.119	Pass/<LOD	Methyl Parathion	0.200	0.119	Pass/<LOD
MGK-264‡	0.200	0.119	Pass/<LOD	Myclobutanil	0.000	0.119	Pass/<LOD
Naled	0.500	0.119	Pass/<LOD	Oxamyl	1.000	0.119	Pass/<LOD
Paclobutrazol	0.400	0.119	Pass/<LOD	Permethrin†	0.200	0.119	Pass/<LOD
Phosmet	0.200	0.119	Pass/<LOD	Piperonyl Butoxide	2.000	0.119	Pass/<LOD
Prallethrin	0.200	0.119	Pass/<LOD	Propiconazole	0.400	0.119	Pass/<LOD
Propoxur	0.200	0.119	Pass/<LOD	Pyrethrins*	1.000	0.119	Pass/<LOD
Pyridaben	0.200	0.119	Pass/<LOD	Spinosad*****	0.200	0.119	Pass/<LOD
Spiromesifen	0.200	0.119	Pass/<LOD	Spirotetramat	0.200	0.119	Pass/<LOD
Spiroxamine‡	0.400	0.119	Pass/<LOD	Tebuconazole	0.400	0.119	Pass/<LOD
Thiacloprid	0.200	0.119	Pass/<LOD	Thiamethoxam	0.200	0.119	Pass/<LOD
Trifloxystrobin	0.200	0.119	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

SOP FE-01-OR9 was used in accordance with OAR 333-007 for sampling. All marijuana items are sampled and tested in accordance with OAR 333-007-0300 to 333-007-490 and OAR 333-064-0100 to 333-064-0110.

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Joseph Rutkowski, Quality Manager



Hfmashi Mead, Technical Manager

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ORELAP Cert No. 4092-004
OLCC No. 1002158CD2E

Oregon Compliant Pesticide QC Report

Testing Accreditation #: 4092-004

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Harvest/Process Date: 10/08/2019
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Date Received: 10/30/2019
Test Date: 11/08/2019



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	1.07	1.11	107.00	111.00	3.67	
Acequinocyl	N.D.	1	0.852	0.804	85.20	80.40	5.80	
Acetamiprid	N.D.	1	1.08	1.16	108.00	116.00	7.14	
Aldicarb	N.D.	1	1.05	1.06	105.00	106.00	0.95	
Avermectin B1a	N.D.	0.97	1.17	1.23	120.62	126.80	5.00	
Azoxystrobin	N.D.	1	0.996	1.08	99.60	108.00	8.09	
Bifenazate	N.D.	1	0.954	0.952	95.40	95.20	0.21	
Bifenthrin	N.D.	1	1.14	1.21	114.00	121.00	5.96	
Boscalid	N.D.	1	0.941	0.929	94.10	92.90	1.28	
Carbaryl	N.D.	1	1.03	1.1	103.00	110.00	6.57	
Carbofuran	N.D.	1	1.23	1.27	123.00	127.00	3.20	
Chlorantraniliprole	N.D.	1	1.05	1.06	105.00	106.00	0.95	
Chlorfenapyr	N.D.	1	0.707	0.724	70.70	72.40	2.38	
Chlorpyrifos	N.D.	1	0.941	0.98	94.10	98.00	4.06	
Clofentezine	N.D.	1	0.888	0.921	88.80	92.10	3.65	
Cyfluthrin	N.D.	1	1.2	1.19	120.00	119.00	0.84	
Cypermethrin	N.D.	1	1.22	1.21	122.00	121.00	0.82	
Daminoside	N.D.	1	1.1	1.14	110.00	114.00	3.57	
Diazanone	N.D.	1	1.02	1.08	102.00	108.00	5.71	
Dichlorvos	N.D.	1	1.09	1.16	109.00	116.00	6.22	
Dimethoate	N.D.	1	1.11	1.16	111.00	116.00	4.41	
Ethoprophos	N.D.	1	0.926	0.981	92.60	98.10	5.77	
Etofenprox	N.D.	1	1.05	1.11	105.00	111.00	5.56	
Etoxazole	N.D.	1	1.12	1.15	112.00	115.00	2.64	
Fenoxycarb	N.D.	1	0.968	0.953	96.80	95.30	1.56	
Fenpyroximate	N.D.	1	1.21	1.19	121.00	119.00	1.67	
Fipronil	N.D.	1	1.05	1.07	105.00	107.00	1.89	
Flonicamid	N.D.	1	1.14	1.15	114.00	115.00	0.87	
Fludioxonil	N.D.	1	1.14	1.09	114.00	109.00	4.48	
Hexythiazox	N.D.	1	0.893	0.932	89.30	93.20	4.27	
Imazalil	N.D.	1	1.11	1.1	111.00	110.00	0.90	
Imidacloprid	N.D.	1	1.13	1.18	113.00	118.00	4.33	
Kresoxim-methyl	N.D.	1	0.944	0.98	94.40	98.00	3.74	
Malathion	N.D.	1	0.952	0.982	95.20	98.20	3.10	
Metalaxyl	N.D.	1	1.07	1.08	107.00	108.00	0.93	
Methiocarb	N.D.	1	1.05	1.04	105.00	104.00	0.96	
Methomyl	N.D.	1	1.06	1.11	106.00	111.00	4.61	
MGK-264	N.D.	1	1	1.03	100.00	103.00	2.96	
Myclobutanil	N.D.	1	1.13	1.17	113.00	117.00	3.48	
Naled (dibrom)	N.D.	1	0.938	0.941	93.80	94.10	0.32	

Oxamyl	N.D.	1	1.18	1.22	118.00	122.00	3.33	
Paclobutrazol	N.D.	1	1.11	1.15	111.00	115.00	3.54	
Parathion-methyl	N.D.	1	1.11	1.04	111.00	104.00	6.51	
Permethrins	N.D.	1	1.2	1.16	120.00	116.00	3.39	
Phosmet	N.D.	1	0.976	0.987	97.60	98.70	1.12	
Piperonyl butoxide	N.D.	1	1.04	1.08	104.00	108.00	3.77	
Prallethrin	N.D.	1	0.962	0.982	96.20	98.20	2.06	
Propiconazole	N.D.	1	0.826	0.825	82.60	82.50	0.12	
Propoxur	N.D.	1	1.08	1.18	108.00	118.00	8.85	
Pyrethrin	N.D.	0.65	0.635	0.615	97.69	94.62	3.20	
Pyridaben	N.D.	1	1	1.02	100.00	102.00	1.98	
SpinosynA	N.D.	0.84	0.619	0.665	73.69	79.17	7.17	
SpinosynD	N.D.	0.16	0.144	0.142	90.00	88.75	1.40	
Spiromesifen	N.D.	1	1.02	1.02	102.00	102.00	0.00	
Spirotetramat	N.D.	1	0.966	0.969	96.60	96.90	0.31	
Spiroxamine	N.D.	1	1.07	1.11	107.00	111.00	3.67	
Tebuconazole	N.D.	1	0.948	0.97	94.80	97.00	2.29	
Thiacloprid	N.D.	1	1.1	1.17	110.00	117.00	6.17	
Thiamethoxam	N.D.	1	1.13	1.18	113.00	118.00	4.33	
Trifloxystrobin	N.D.	1	1.02	1.03	102.00	103.00	0.98	

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.

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