



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

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

Testing Accreditation #: 4092-002

Test Certificate #: 119503-001

**Client Name, Sample Details**  
**Pistil Pioneers**  
 Blachly, OR 97412  
**Sample:** Grapefruit Moonshine  
**License:** 020-10005453F9C  
**Type:** Usable Marijuana  
**Method:** FE04U  
**Metrc Test Pkg#:** 1A4010300009665000000447  
**Metrc Source Pkg#:** 1A4010300009665000000419  
**\*\*\*Water Activity:** 0.5964  
**\*\*\*Moisture:** 13.65%

**Test Conditions**  
**Prepsheet ID#:** ORP191008a  
**Scale:** XS205-OR1  
**Temp:** 21.2 °C  
**Baro PE:** 1003 hPa  
**Analyst:** HRM  
**Technician:** EDT

**Sample ID#:** 119503  
**Lot #:** manigfm\_91819  
**Batch #:** 119503  
**Batch Weight (g):** 6810  
**Harvest/Process Date:** 09/18/2019  
**Serving Size (g):** 1  
**Date Received:** 09/26/2019  
**Test Date:** 10/08/2019



Test Compounds	THC	THCA	CBD	CBDA	CBN	CBG	CBC	THCV*	CBDV	Total Cannabinoids*	Total THC	Total CBD	Calc Max Total Cannabinoids*
Amount (%)	1.08	25.41	N/D	0.51	0.15	0.08	N/D	N/D	N/D	27.23	23.37	0.45	24.05
Amount (mg/g)	10.83	254.07	N/D	5.07	1.53	0.84	N/D	N/D	N/D	272.34	233.65	4.45	240.47
Amount per Serving (mg)	10.83	254.07	N/D	5.07	1.53	0.84	N/D	N/D	N/D	272.34	<b>Serving Size~ (g):</b>		1.00
LOQ (mg/g)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05		<b>%Decarb.</b>	<b>THC</b>	<b>CBD</b>
±%RPD	2.03	5.15	+/-5%	3.88	66.67	+/-5%	22.22	+/-5%	+/-5%			4	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.

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**

**Oregon Compliant QC Report**

Testing Accreditation #: 4092-002

Test Certificate #: 119503-001

**Client Name, Sample Details**  
**Pistil Pioneers**  
 Blachly, OR 97412  
**Sample:** Grapefruit Moonshine  
**License:** 020-10005453F9C  
**Type:** Usable Marijuana  
**Method:** FE04U  
**Metrc Test Pkg#:** 1A4010300009665000000447  
**Metrc Source Pkg#:** 1A4010300009665000000419  
**\*\*\*Water Activity:** 0.5964  
**\*\*\*Moisture:** 13.65%

**Test Conditions**  
**Prepsheet ID#:** ORP191008a  
**Scale:** XS205-OR1  
**Temp:** 21.2 °C  
**Baro PE:** 1003 hPa  
**Analyst:** HRM  
**Technician:** EDT

**Sample ID#:** 119503  
**Lot #:** manigm\_91819  
**Batch #:** 119503  
**Batch Weight (g):** 6810  
**Harvest/Process Date:** 09/18/2019  
**Serving Size (g):** 1  
**Date Received:** 09/26/2019  
**Test Date:** 10/08/2019



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	1.01	78.29	1.05	81.40	3.88%	
Cannabigerol (CBG)	N.D.	0.15	0.14	93.33	0.14	93.33	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.	0.11	0.14	127.27	0.07	63.64	66.67%	Q
Δ9-Tetrahydrocannabinol (THC)	N.D.	3.31	2.92	88.22	2.98	90.03	2.03%	
Cannabichromene (CBC)	N.D.	0.08	0.04	50.00	0.05	62.50	22.22%	
Tetrahydrocannabinolic acid (THCA)	N.D.	18.31	13.61	74.33	14.33	78.26	5.15%	

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.

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

Oregon Compliant Pesticide Analysis by  
Mass Spectrometer

Testing Accreditation #: 4092-002

Test Certificate #: 119503-001

<b>Client Name, Sample Details</b> <b>Pistil Pioneers</b> Blachly, OR 97412 <b>Sample:</b> Grapefruit Moonshine <b>License:</b> 020-10005453F9C <b>Type:</b> Usable Marijuana <b>Method:</b> FE-52 (EN 15662 & AOAC 2007.01) <b>Metric Test Pkg#:</b> 1A4010300009665000000447 <b>Metric Source Pkg#:</b> 1A4010300009665000000419	<b>Test Conditions</b> <b>Prepsheet ID#:</b> ORPS191004a <b>Scale:</b> XS205-OR1 <b>Temp:</b> 21.9 °C <b>Baro PE:</b> 1009 hPa <b>Analyst:</b> JER <b>Technician:</b> JER	<b>Sample ID#:</b> 119503 <b>Lot #:</b> manigfm_91819 <b>Batch #:</b> 119503 <b>Batch Weight (g):</b> 6810 <b>Harvest/Process Date:</b> 09/18/2019 <b>Serving Size (g):</b> 1 <b>Date Received:</b> 09/26/2019 <b>Test Date:</b> 10/06/2019
--	---	--



Compound	MRL (µg/g)	LOD (µg/g)	Status (µg/g)	Compound	MRL (µg/g)	LOD (µg/g)	Status (µg/g)
Aldicarb	0.400	0.122	Pass/<LOD	Abamectin****	0.500	0.122	Pass/<LOD
Acephate	0.400	0.122	Pass/<LOD	Acequinocyl	2.000	0.245	Pass/<LOD
Acetamiprid	0.200	0.122	Pass/<LOD	Azoxystrobin	0.200	0.122	Pass/<LOD
Bifenazate	0.200	0.122	Pass/<LOD	Bifenthrin	0.200	0.122	Pass/<LOD
Boscalid	0.400	0.122	Pass/<LOD	Carbaryl	0.200	0.122	Pass/<LOD
Carbofuran	0.200	0.122	Pass/<LOD	Chlorantraniliprole	0.200	0.122	Pass/<LOD
Chlorfenapyr	1.000	0.489	Pass/<LOD	Chlorpyrifos	0.200	0.122	Pass/<LOD
Clofentazine	0.200	0.122	Pass/<LOD	Cyfluthrin**	1.000	0.489	Pass/<LOD
Cypermethrin***	1.000	0.489	Pass/<LOD	Daminozide	1.000	0.122	Pass/<LOD
DDVP (Dichlorvos)	1.000	0.245	Pass/<LOD	Diazinon	0.200	0.122	Pass/<LOD
Dimethoate	0.200	0.122	Pass/<LOD	Ethoprophos	0.200	0.122	Pass/<LOD
Etofenprox	0.400	0.122	Pass/<LOD	Etoazole	0.200	0.122	Pass/<LOD
Fenoxycarb	0.200	0.122	Pass/<LOD	Fenpyroximate	0.400	0.122	Pass/<LOD
Fipronil	0.400	0.122	Pass/<LOD	Flonicamid	1.000	0.122	Pass/<LOD
Fludioxonil	0.400	0.122	Pass/<LOD	Hexythiazox	1.000	0.122	Pass/<LOD
Imazalil	0.200	0.122	Pass/<LOD	Imidacloprid	0.400	0.122	Pass/<LOD
Kresoxim Methyl	0.400	0.122	Pass/<LOD	Malathion	0.200	0.122	Pass/<LOD
Metalaxyl	0.200	0.122	Pass/<LOD	Methiocarb	0.200	0.122	Pass/<LOD
Methomyl	0.400	0.122	Pass/<LOD	Methyl Parathion	0.200	0.122	Pass/<LOD
MGK-264‡	0.200	0.122	Pass/<LOD	Myclobutanil	0.000	0.122	Pass/<LOD
Naled	0.500	0.122	Pass/<LOD	Oxamyl	1.000	0.122	Pass/<LOD
Paclobutrazol	0.400	0.122	Pass/<LOD	Permethrin†	0.200	0.122	Pass/<LOD
Phosmet	0.200	0.122	Pass/<LOD	Piperonyl Butoxide	2.000	0.122	Pass/<LOD
Prallethrin	0.200	0.122	Pass/<LOD	Propiconazole	0.400	0.122	Pass/<LOD
Propoxur	0.200	0.122	Pass/<LOD	Pyrethrins*	1.000	0.122	Pass/<LOD
Pyridaben	0.200	0.122	Pass/<LOD	Spinosad*****	0.200	0.122	Pass/<LOD
Spiromesifen	0.200	0.122	Pass/<LOD	Spirotetramat	0.200	0.122	Pass/<LOD
Spiroxamine‡	0.400	0.122	Pass/<LOD	Tebuconazole	0.400	0.122	Pass/<LOD
Thiacloprid	0.200	0.122	Pass/<LOD	Thiamethoxam	0.200	0.122	Pass/<LOD
Trifloxystrobin	0.200	0.122	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.

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**

**Oregon Compliant Pesticide QC Report**

Testing Accreditation #: 4092-002

Test Certificate #: 119503-001

**Client Name, Sample Details**  
**Pistil Pioneers**  
 Blachly, OR 97412  
**Sample:** Grapefruit Moonshine  
**License:** 020-10005453F9C  
**Type:** Usable Marijuana  
**Method:** FE-52 (EN 15662 & AOAC 2007.01)  
**Metrc Test Pkg#:** 1A4010300009665000000447  
**Metrc Source Pkg#:** 1A4010300009665000000419

**Test Conditions**  
**Prepsheet ID#:** ORPS191004a  
**Scale:** XS205-OR1  
**Temp:** 21.9 °C  
**Baro PE:** 1009 hPa  
**Analyst:** JER  
**Technician:** JER

**Sample ID#:** 119503  
**Lot #:** manigfm\_91819  
**Batch #:** 119503  
**Batch Weight (g):** 6810  
**Harvest/Process Date:** 09/18/2019  
**Serving Size (g):** 1  
**Date Received:** 09/26/2019  
**Test Date:** 10/06/2019



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	1.14	1.12	114.00	112.00	1.77	
Acequinocyl	N.D.	1	0.814	0.731	81.40	73.10	10.74	
Acetamiprid	N.D.	1	1.32	1.24	132.00	124.00	6.25	HR
Aldicarb	N.D.	1	1.15	1.14	115.00	114.00	0.87	
Avermectin B1a	N.D.	0.97	1.3	1.31	134.02	135.05	0.77	HR
Azoxystrobin	N.D.	1	1.29	1.32	129.00	132.00	2.30	HR
Bifentazate	N.D.	1	0.867	0.833	86.70	83.30	4.00	
Bifenthrin	N.D.	1	1.38	1.37	138.00	137.00	0.73	
Boscalid	N.D.	1	1.03	1.02	103.00	102.00	0.98	
Carbaryl	N.D.	1	1.18	1.18	118.00	118.00	0.00	
Carbofuran	N.D.	1	1.31	1.35	131.00	135.00	3.01	HR
Chlorantraniliprole	N.D.	1	1.12	1.18	112.00	118.00	5.22	
Chlorfenapyr	N.D.	1	0.757	1.09	75.70	109.00	36.06	Q
Chlorpyrifos	N.D.	1	1.04	1.07	104.00	107.00	2.84	
Clofentezine	N.D.	1	1.03	1.09	103.00	109.00	5.66	
Cyfluthrin	N.D.	1	1.5	1.54	150.00	154.00	2.63	HR
Cypermethrin	N.D.	1	1.46	1.45	146.00	145.00	0.69	HR
Daminozide	N.D.	1	0.51	0.482	51.00	48.20	5.65	LR
Diazanone	N.D.	1	3.56	3.56	356.00	356.00	0.00	HR
Dichlorvos	N.D.	1	1.3	1.29	130.00	129.00	0.77	
Dimethoate	N.D.	1	1.32	1.35	132.00	135.00	2.25	HR
Ethoprophos	N.D.	1	1.25	1.25	125.00	125.00	0.00	
Etofenprox	N.D.	1	1.21	1.22	121.00	122.00	0.82	
Etoxazole	N.D.	1	1.31	1.18	131.00	118.00	10.44	HR
Fenoxycarb	N.D.	1	1.18	1.15	118.00	115.00	2.58	
Fenpyroximate	N.D.	1	1.52	1.49	152.00	149.00	1.99	HR
Fipronil	N.D.	1	1.19	1.26	119.00	126.00	5.71	
Flonicamid	N.D.	1	1.27	1.33	127.00	133.00	4.62	HR
Fludioxonil	N.D.	1	1.26	1.21	126.00	121.00	4.05	
Hexythiazox	N.D.	1	0.943	1.05	94.30	105.00	10.74	
Imazalil	N.D.	1	1.14	1.18	114.00	118.00	3.45	
Imidacloprid	N.D.	1	1.41	1.32	141.00	132.00	6.59	HR
Kresoxim-methyl	N.D.	1	1.13	1.11	113.00	111.00	1.79	
Malathion	N.D.	1	1.16	1.08	116.00	108.00	7.14	
Metalaxyl	N.D.	1	1.26	1.35	126.00	135.00	6.90	HR
Methiocarb	N.D.	1	1.26	1.22	126.00	122.00	3.23	
Methomyl	N.D.	1	1.17	1.16	117.00	116.00	0.86	
MGK-264	N.D.	1	1.1	1.24	110.00	124.00	11.97	
Myclobutanil	N.D.	1	1.27	1.25	127.00	125.00	1.59	
Naled (dibrom)	N.D.	1	0.378	0.429	37.80	42.90	12.64	LR

Oxamyl	N.D.	1	1.44	1.48	144.00	148.00	2.74	
Paclobutrazol	N.D.	1	1.27	1.27	127.00	127.00	0.00	
Parathion-methyl	N.D.	1	1.16	1.15	116.00	115.00	0.87	
Permethrins	N.D.	1	1.29	1.3	129.00	130.00	0.77	
Phosmet	N.D.	1	1.11	1.13	111.00	113.00	1.79	
Piperonyl butoxide	N.D.	1	1.18	1.15	118.00	115.00	2.58	
Prallethrin	N.D.	1	1.16	1.14	116.00	114.00	1.74	
Propiconazole	N.D.	1	1.04	0.995	104.00	99.50	4.42	
Propoxur	N.D.	1	1.13	1.16	113.00	116.00	2.62	
Pyrethrin	N.D.	0.65	0.74	0.681	113.85	104.77	8.30	
Pyridaben	N.D.	1	1.07	1.1	107.00	110.00	2.76	
SpinosynA	N.D.	0.84	0.676	0.836	80.48	99.52	21.16	Q
SpinosynD	N.D.	0.16	0.137	0.178	85.63	111.25	26.03	Q
Spiromesifen	N.D.	1	0.212	0.232	21.20	23.20	9.01	LR
Spirotetramat	N.D.	1	0.92	0.894	92.00	89.40	2.87	
Spiroxamine	N.D.	1	1.19	1.25	119.00	125.00	4.92	
Tebuconazole	N.D.	1	1.09	1.09	109.00	109.00	0.00	
Thiacloprid	N.D.	1	1.37	1.41	137.00	141.00	2.88	HR
Thiamethoxam	N.D.	1	1.25	1.31	125.00	131.00	4.69	HR
Trifloxystrobin	N.D.	1	1.21	1.27	121.00	127.00	4.84	

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.

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.

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



Joseph Rutkowski, Quality Manager




Hfmashi Mead, Technical Manager

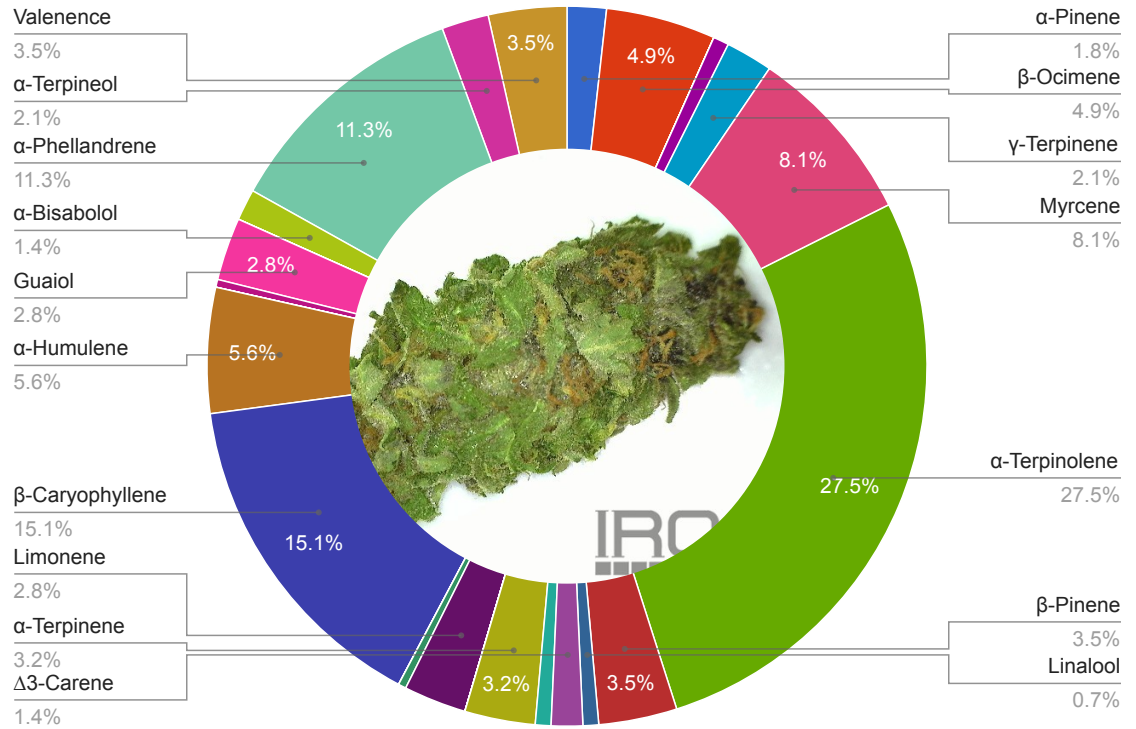
Iron Labs Oregon complies with 2009 TNI Environmental Laboratory Standards.

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

**Client Name, Sample Details**  
**Pistil Pioneers**  
 Blachly, OR 97412  
**Sample:** Grapefruit Moonshine  
**License:** 020-10005453F9C  
**Type:** Usable Marijuana  
**Method:** SOP FE-44-OR3  
**Metric Test Pkg#:**  
 1A4010300009665000000447  
**Metric Source Pkg#:**  
 1A4010300009665000000419

**Test Conditions**  
**Scale:** XS205-OR1  
**Temp:** 21.8 °C  
**Baro Pressure:** 1008 hPa  
**Analyst:** JER  
**Technician:** JER

**Sample ID#:** 119503  
**Lot #:** manigfm\_91819  
**Batch #:** 119503  
**Batch Weight (g):** 6810  
**Harvest/Process Date:** 09/18/2019  
**Serving Size (g):** 1  
**Date Received:** 09/26/2019



α-Pinene (0.05%)	β-Ocimene (0.14%)	Camphene (0.00%)	Eucalyptol (1,8-Cineol) (0.00%)	Sabinene (0.02%)
γ-Terpinene (0.06%)	Myrcene (0.23%)	α-Terpinolene (0.78%)	β-Pinene (0.10%)	Linalool (0.02%)
Δ3-Carene (0.04%)	Fenchone (0.00%)	α-Terpinene (0.09%)	endo-Fenchol (0.02%)	α-Ocimene (0.00%)
Isopulegol (0.00%)	Limonene (0.08%)	Geraniol (0.01%)	p-Cymene (0.00%)	β-Caryophyllene (0.43%)
α-Humulene (0.16%)	Nerolidol 1 (cis) (0.00%)	Nerolidol 2 (trans) (0.01%)	Guaiol (0.08%)	Caryophyllene Oxide (0.00%)
α-Bisabolol (0.04%)	α-Phellandrene (0.32%)	α-Terpineol (0.06%)	Valence (0.10%)	

**Predominant Terpenes**

0.78% α-Terpinolene	Fresh wood, sweet, pine, citrus	0.43% β-Caryophyllene	Sweet, woody, spicy, clove
0.32% α-Phellandrene	Citrus, green, black pepper	0.23% Myrcene	Peppery, spicy balsam
0.16% α-Humulene	Woody, oceanic-watery, spicy clove	0.14% β-Ocimene	Citrus, tropical, woody, green

Total: 2.840%

Value in parenthesis indicates percentage of terpene present in the total sample (weight percentage, wt/wt%).  
 Value in doughnut slice indicates individual terpene abundance with respect to the total terpenes detected.

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

  
 Joseph Rutkowski, Quality Manager



  
 Hfmashi Mead, Technical Manager

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