



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

Oregon Compliant Marijuana Potency Analysis by
High Performance Liquid Chromatography

Testing Accreditation #: 4092-002

Test Certificate #: 119495-001

Client Name, Sample Details

Pistil Pioneers
Blachly, OR 97412
Sample: Grapefruit Moonshine
License: 020-10005453F9C
Type: Usable Marijuana
Method: FE04U
Metric Test Pkg#: 1A4010300009665000000439
Metric Source Pkg#: 1A4010300009665000000428
***Water Activity: 0.5809
***Moisture: 13.34%

Test Conditions

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

Sample ID#: 119495

Lot #: manigfm_91819
Batch #: 119495
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 (%)	1.04	23.98	N/D	0.43	0.13	0.09	N/D	N/D	N/D	25.67	22.07	0.37	22.67
Amount (mg/g)	10.43	239.79	N/D	4.27	1.31	0.92	N/D	N/D	N/D	256.72	220.73	3.74	226.70
Amount per Serving (mg)	10.43	239.79	N/D	4.27	1.31	0.92	N/D	N/D	N/D	256.72	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	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.

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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 #: 119495-001

Client Name, Sample Details
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 Blachly, OR 97412
 Sample: Grapefruit Moonshine
 License: 020-10005453F9C
 Type: Usable Marijuana
 Method: FE04U
 Metrc Test Pkg#: 1A4010300009665000000439
 Metrc Source Pkg#: 1A4010300009665000000428
 ***Water Activity: 0.5809
 ***Moisture: 13.34%

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

Sample ID#: 119495
 Lot #: manigm_91819
 Batch #: 119495
 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
Cannabidiol (CBD)	N.D.	N.D.	N.D.	0.00	N.D.	0.00	0.00%	
Cannabidiolol (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-Tetrahydrocannabinol (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.

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Hfmashi Mead, Technical Manager

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

**Oregon Compliant Pesticide Analysis by
 Mass Spectrometer**

Testing Accreditation #: 4092-002

Test Certificate #: 119495-001

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)
Metric Test Pkg#: 1A4010300009665000000439
Metric Source Pkg#: 1A4010300009665000000428

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

Sample ID#: 119495
Lot #: manigfm_91819
Batch #: 119495
Batch Weight (g): 6810
Harvest/Process Date: 09/18/2019
Serving Size (g): 1
Date Received: 09/26/2019
Test Date: 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	0.124	Pass/<LOD	Abamectin****	0.500	0.124	Pass/<LOD
Acephate	0.400	0.124	Pass/<LOD	Acequinocyl	2.000	0.248	Pass/<LOD
Acetamiprid	0.200	0.124	Pass/<LOD	Azoxystrobin	0.200	0.124	Pass/<LOD
Bifenazate	0.200	0.124	Pass/<LOD	Bifenthrin	0.200	0.124	Pass/<LOD
Boscalid	0.400	0.124	Pass/<LOD	Carbaryl	0.200	0.124	Pass/<LOD
Carbofuran	0.200	0.124	Pass/<LOD	Chlorantraniliprole	0.200	0.124	Pass/<LOD
Chlorfenapyr	1.000	0.496	Pass/<LOD	Chlorpyrifos	0.200	0.124	Pass/<LOD
Clofentazine	0.200	0.124	Pass/<LOD	Cyfluthrin**	1.000	0.496	Pass/<LOD
Cypermethrin***	1.000	0.496	Pass/<LOD	Daminozide	1.000	0.124	Pass/<LOD
DDVP (Dichlorvos)	1.000	0.248	Pass/<LOD	Diazinon	0.200	0.124	Pass/<LOD
Dimethoate	0.200	0.124	Pass/<LOD	Ethoprophos	0.200	0.124	Pass/<LOD
Etofenprox	0.400	0.124	Pass/<LOD	Etoazole	0.200	0.124	Pass/<LOD
Fenoxycarb	0.200	0.124	Pass/<LOD	Fenpyroximate	0.400	0.124	Pass/<LOD
Fipronil	0.400	0.124	Pass/<LOD	Flonicamid	1.000	0.124	Pass/<LOD
Fludioxonil	0.400	0.124	Pass/<LOD	Hexythiazox	1.000	0.124	Pass/<LOD
Imazalil	0.200	0.124	Pass/<LOD	Imidacloprid	0.400	0.124	Pass/<LOD
Kresoxim Methyl	0.400	0.124	Pass/<LOD	Malathion	0.200	0.124	Pass/<LOD
Metalaxyl	0.200	0.124	Pass/<LOD	Methiocarb	0.200	0.124	Pass/<LOD
Methomyl	0.400	0.124	Pass/<LOD	Methyl Parathion	0.200	0.124	Pass/<LOD
MGK-264‡	0.200	0.124	Pass/<LOD	Myclobutanil	0.000	0.124	Pass/<LOD
Naled	0.500	0.124	Pass/<LOD	Oxamyl	1.000	0.124	Pass/<LOD
Paclobutrazol	0.400	0.124	Pass/<LOD	Permethrin†	0.200	0.124	Pass/<LOD
Phosmet	0.200	0.124	Pass/<LOD	Piperonyl Butoxide	2.000	0.124	Pass/<LOD
Prallethrin	0.200	0.124	Pass/<LOD	Propiconazole	0.400	0.124	Pass/<LOD
Propoxur	0.200	0.124	Pass/<LOD	Pyrethrins*	1.000	0.124	Pass/<LOD
Pyridaben	0.200	0.124	Pass/<LOD	Spinosad*****	0.200	0.124	Pass/<LOD
Spiromesifen	0.200	0.124	Pass/<LOD	Spirotetramat	0.200	0.124	Pass/<LOD
Spiroxamine‡	0.400	0.124	Pass/<LOD	Tebuconazole	0.400	0.124	Pass/<LOD
Thiacloprid	0.200	0.124	Pass/<LOD	Thiamethoxam	0.200	0.124	Pass/<LOD
Trifloxystrobin	0.200	0.124	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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ORELAP Cert No. 4092-002
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Oregon Compliant Pesticide QC Report

Testing Accreditation #: 4092-002

Test Certificate #: 119495-001

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Test Conditions
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Baro PE: 1009 hPa
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Batch #: 119495
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
Bifenazate	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
Daminoside	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.

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