

Centennial Pale Ale/s

American Pale Ale (18 B)

Type: All Grain

Batch Size: 5.25 gal

Boil Size: 7.00 gal

Boil Time: 60 min

End of Boil Vol: 6.25 gal

Final Bottling Vol: 5.00 gal

Fermentation: Ale, Single Stage, 12 Day, 66F

Date: 07 Nov 2019

Brewer: Bob

Asst Brewer:

Equipment: 6 - Digiboil

Efficiency: 72.00 %

Est Mash Efficiency: 82.3 %

Taste Rating: 30.0

Taste Notes:

Ingredients					
Amt	Name	Type	#	%/IBU	Volume
7.71 gal	001 - R.O.Water	Water	1	-	-
1.50 ml	Lactic Acid 135% (Mash)	Water Agent	2	-	-
0.88 tsp	Calcium Chloride (Mash)	Water Agent	3	-	-
0.75 tsp	Gypsum (Calcium Sulfate) (Mash)	Water Agent	4	-	-
8 lbs 4.0 oz	Viking 2-row Pale (2.6 SRM)	Grain	5	84.9 %	0.64 gal
1 lbs	Viking Wheat Malt (2.5 SRM)	Grain	6	10.0 %	0.08 gal
8.0 oz	Crystal 75 (Great Western) (75.0 SRM)	Grain	7	5.1 %	0.04 gal
14.00 g	Centennial, 2016 [8.40 %] - Boil 60.0 min	Hop	8	11.0 IBUs	-
0.25 tsp	Calcium Chloride (Boil)	Water Agent	9	-	-
0.25 tsp	Gypsum (Calcium Sulfate) (Boil)	Water Agent	10	-	-
1.00 Items	Whirlfloc Tablet (Boil 10.0 mins)	Fining	11	-	-
28.00 g	Cascade,2017 [7.20 %] - Boil 10.0 min	Hop	12	9.3 IBUs	-
28.00 g	Centennial, 2016 [8.40 %] - Boil 10.0 min	Hop	13	10.9 IBUs	-
0.50 tsp	Wyeast nutrient (Boil 10.0 mins)	Other	14	-	-
28.00 g	Cascade,2017 [7.20 %] - Boil 1.0 min	Hop	15	5.3 IBUs	-
28.00 g	Centennial, 2016 [8.40 %] - Boil 1.0 min	Hop	16	6.2 IBUs	-
1.0 pkg	1 Liberty Bell Ale slurry (Mangrove Jack's #M36)	Yeast	17	-	-

Gravity, Alcohol Content and Color

Est Original Gravity: 1.048 SG

Est Final Gravity: 1.011 SG

Estimated Alcohol by Vol: 4.9 %

Bitterness: 42.7 IBUs

Est Color: 7.4 SRM

Measured Original Gravity: 1.053 SG

Measured Final Gravity:

Actual Alcohol by Vol**Calories:****Mash Name:** 12 - Medium Body 152F**Sparge Water:** 1.96 gal**Sparge Temperature:** 168 F**Adjust Temp for Equipment:** True**Est Mash PH:** 5.42**Measured Mash PH:** 5.40**Total Grain Weight:** 9 lbs 11.5 oz**Grain Temperature:** 68.1 F**Tun Temperature:** 72.0 F**Target Mash PH:** 5.4**Mash Acid Addition:****Sparge Acid Addition:** None

Mash Steps			
Name	Description	Step Temperature	Step Time
Saccharification	Add 23.00 qt of water at 162.5 F	152.0 F	75 min

Sparge: Fly sparge with 1.96 gal water at 168.1 F**Carbonation and Storage****Carbonation Type:** Keg**Pressure/Weight:** 11.25 PSI**Keg/Bottling Temperature:** 38.0 F**Fermentation:** Ale, Single Stage, 12 Day, 66F**Fermenter:****Volumes of CO2:** 2.5**Carbonation Est:** Keg with 11.25 PSI**Carbonation (from Meas Vol):** Keg with 11.25 PSI**Age for:** 21.00 days**Storage Temperature:** 38.0 F**Notes**