# Tulsa Flag - 30bbl

Category: 18 - Pale American Ale Subcategory: A - Blonde Ale

Author: TMP

Kettle Volume: 1,020.54 gal @ 212 °F (1.049) Boil Duration: 1.25 h Evaporation: 1.88 gal Water Volume Added: 0 gal Final Volume: 978 gal @ 68 °F (1.049)

### **Ingredients:**

1485 lb (90.0%) 2-Row Brewers Malt; Briess - added during mash 82.5 lb (5.0%) Munich 10L Malt; Briess - added during mash 82.5 lb (5.0%) Vienna Malt; Briess - added during mash 1.5 kg (25.0%) Perle (6.4%) - added during boil, boiled 60 m 1.5 kg (25.0%) Perle (6.4%) - added during boil, boiled 40 m 3 kg (49.9%) Crystal (6%) - added during boil, boiled 20 m

#### Style:

Recipe	Guideline	
Original Gravity: 1.049	1.038 - 1.054	
Terminal Gravity: 1.007	1.008 - 1.013	
Color: 3.87 SRM	3.0 - 6.0	
Alcohol: 5.45%	3.8% - 5.5%	
Bitterness: 18.6	15.0 - 28.0	

Efficiency: 83.0%

Attenuation: 85.0%

#### Analysis:

Kettle Gravity: 1.049 Original Gravity: 1.049				
<b>Apparent</b> Attenuation: 85.0% Terminal Extract: 1.007	<b>Real</b> 68.6% 1.015	Weight Alcohol: 15.36 g Carbs: 13.28 g Protein: 0.93 g	<b>Calories</b> 105.97 kcal 50.46 kcal 3.72 kcal	
% Alcohol: 5.45% ABV	4.3% ABW	Total: 160.15 kcal		
Summary:				
Total   Fermentables: 1,650.0 lb   Grist: 1,650.0 lb   Water: 0.0 gal   Hops: 211.97 oz   Alpha Acid: 13.143 oz   Iso-Alpha Acid: 2.429 oz	<b>12.0 fl oz</b> 0.16 lb 0.0 gal 0.02 oz 0.001 oz 0.0 oz			

## **Carbonation:**

**Natural Conditioning** Beer Temp: 68.0 °F Priming Agent Rate: 4.02 g/L Priming Agent Mass: 8,103.5 g Volumes CO2: 1.41

Cost: 2792.95 USD

0.27 USD

Efficiency: 83.0%

**Forced Carbonation** Beer Temp: 45.0 °F Pressure: 2.0 PSI Volumes CO2: 1.41



