

BREWSHEET v3.4 (2014-12-14)

user input  
calculated

Brew			
Name:	She's Got Balls Double ESB		
Brew Date:	2017 July 4	Collected (gal):	10.25
Rack Date:		Racked (gal):	
Keg/Bottle Date:	2017 August 2	Kegged/Bottled (gal):	10.00
Estimated	Actual		
ABV (%):	6.8%	ABV (%):	6.7%
OG (SG):	1.065	OG (SG):	1.063
FG (SG):	1.013	FG (SG):	1.012
IBU:	46.7	IBU:	50.8
SRM:	1.93	SRM:	1.73
IBU/Gravity Ratio:	0.72	IBU/Gravity Ratio:	0.80

Grain	Pounds	Potential	SG Share	Color	% Bill
Pale Malt (2-Row) US	22.25	1.036	0.051	2.0	78.05%
Munich Malt 10L	3.51	1.035	0.008	10.0	12.30%
Caramel/Crystal 75L	1.50	1.034	0.003	75.0	5.26%
Caramel/Crystal 150L	1.25	1.033	0.003	150.0	4.39%

Hop	Type	Ounces	Boil Time	Alpha %	IBU	% Bill
Challenger (UK)	P	2.75	60	7.0%	26.8	40.74%
Phoenix (UK)	P	2.00	15	10.5%	14.4	29.63%
Phoenix (UK)	P	2.00	5	10.5%	5.8	29.63%

Design Notes	

Batch Variables and Calculations	
Batch Size (gal):	11.00
Grain Temperature (F):	86
Total Grain Weight (lbs):	28.51
Mash	
Mash Time (min):	60
Desired Mash Temperature (F):	154
Strike Water (gal):	10.52
Strike Temperature (F):	170
Mash Ratio (qts/lb):	1.48
Grain Absorption (gal):	3.56
Mash Volume (gal):	12.80
Mash-out Temperature (F):	168
Estimated First Runnings (gal):	6.82
First Runnings Gravity (Brix):	6.90
First Runnings Gravity (SG):	18.80
First Runnings Gravity (SG):	1.073
Sparge	
Desired Sparge Temperature (F):	168
Sparge Water (gal):	6.35
Sparge Water Temperature (F):	172
Estimated Second Runnings (gal):	6.82
Second Runnings (gal):	6.74
Second Runnings Gravity (Brix):	9.20
Second Runnings Gravity (SG):	1.036
Estimated Preboil Volume (gal):	13.64
Estimated Preboil Gravity (Brix):	14.06
Preboil Volume (gal):	13.64
Preboil Gravity (Brix):	14.00
Preboil Gravity (SG):	1.054
Extraction Efficiency (%):	73%
Boil	
Boil Time (min):	60
Estimated Evaporation Loss (gal):	1.43
Hop Absorption (gal):	0.17
Volume Left in Kettle (gal):	0.00
Actual Evaporation Rate (gal/hr):	2.21
Actual Evaporation Loss (gal):	2.21
Original Gravity (Brix):	16.27
Batch Size Efficiency (%):	68%
Actual Efficiency (%):	64%
Fermentation	
Primary Fermentation (days):	14
Primary Fermentation Temperature (F):	64
Gravity After Primary Fermentation (SG):	
Temperature of Reading (F):	
Corrected SG:	
Secondary Fermentation (days):	3
Secondary Fermentation Temperature (F):	32
Gravity After Secondary Fermentation (SG):	
Temperature of Reading (F):	
Corrected SG:	
Tertiary Fermentation (days):	
Tertiary Fermentation Temperature (F):	
Final Gravity (SG):	1.012
Temperature of Reading (F):	41
Corrected SG:	1.012
Target Fermentation for Diacetyl Rest (%):	
Target Gravity for Diacetyl Rest (SG):	
Calories per Pint:	208
1/2 oz. Bottles Required:	102
Carbonation	
Bottling Temperature (F):	
Volumes of CO2:	1.00
Priming Sugar (oz):	
DME (oz):	
Forced Carbonation (lbs):	

System Variables	
Brewhouse Efficiency (%):	70%
Volume in Hoses (gal):	0.22
Volume in Wort Chiller (gal):	0.19
Volume in HERMS Coil (gal):	0.25
Mash/Lauter Tun Deadspace (gal):	0.14
Strike to Sparge Volume Ratio (%):	50%
Trub Loss (gal):	0.16
FWH IBU Factor (%):	10%
Strike Temperature Factor (F):	7
Sparge Temperature Factor (F):	4
Estimated Evaporation Rate (gal/hr):	1.43
Leaf Hop Absorption Ratio (qts/oz):	0.40
Pellet Hop Absorption Ratio (qts/oz):	0.10
Cooling Losses (%):	4%
Hydrometer Correction (SG):	0.001

BJCP Style Guidelines	
Style:	Extra Special/Strong Bitter (English Pale Ale)
Code:	8C
OG:	1.048-1.060
FG:	1.010-1.016
IBU:	30.0-50.0
SRM:	6.0-18.0
ABV:	4.6-6.2%
CO2:	0.7-1.3

Yeast Strain	
Yeast Strain:	Danstar Nottingham (Dry Ale)
Type:	Dry Ale
Attenuation (%):	75-85%
Actual Attenuation (%):	81%
Fermentation Temp (F):	57-70F
Flocculation:	high

Required Amounts	
Cell Count (billions):	491
Vials (White Labs/Wyeast):	
Dry Yeast (g):	24.6

Yeast Starter/Slurry	
Vials (White Labs/Wyeast):	
Date Yeast Produced:	
Yeast Viability (%):	
Yeast Growth Rate:	
Yeast Inoculation Rate (million/ml):	
Starter Volume Required (ml):	
DME Required (oz):	
Yeast slurry concentration (billion/ml):	2.5
Non-yeast Percentage (%):	20%
Yeast Slurry Required (ml):	

User Variables	

Batch Scaling				
Desired OG:	1.065	Total Weight (lbs):	28.69	
Batch Size (gal):	11.00	Total Bill:	100.00%	
Brewhouse Efficiency (%):	70%			
Grain	Pounds	Potential	Color	% Bill
Pale Malt (2-Row) US	21.52	1.036	2.0	75.00%
Munich Malt 10L	4.30	1.035	10.0	15.00%
Caramel/Crystal 75L	1.58	1.034	75.0	5.50%
Caramel/Crystal 150L	1.29	1.033	150.0	4.50%

Poundage		
Goal (lbs):	22.25	
Amount (lbs   oz_f_oz):	2	6.91
Amount (lbs   oz_f_oz):	2	11.95
Amount (lbs   oz_f_oz):	2	9.20
Amount (lbs   oz_f_oz):	1	1.74
Amount (lbs   oz_f_oz):	2	8.04
Amount (lbs   oz_f_oz):	2	7.86
Amount (lbs   oz_f_oz):	2	8.67
Amount (lbs   oz_f_oz):	2	11.46
Amount (lbs   oz_f_oz):	2	11.03
Amount (lbs   oz_f_oz):		
Amount (lbs   oz_f_oz):		
Amount (lbs   oz_f_oz):		
Needed (lbs   oz_f_oz):	0	7.14

Hydrometer Correction	
SG:	1.060
Temperature (F):	77
Corrected SG:	1.063

Gravity Calculator		
Brix:	15.20	16.27
Specific Gravity:	1.059	1.063
Degrees Plato:	14.42	15.38

Brix Ethanol Correction	
Original Brix:	
Current Brix:	
SG:	

Brewing Notes	
7/4: mashe temp was 155F for 10-15 mins; stabilized at 154F for the remainder. 7/30: cold crashed.	
8/2: kegged; aroma is quite malty and clean; flavor matches aroma; not particularly bitter (would have preferred more bitterness: ~+20 IBUs).	
Both batches are basically identical.	