

BREWSHEET v2.1 (2011-01-04)

Batch			
Brew Name:	She's Got Balls Double ESB v2		
Bottle Top Code:	Calories per Pint:	204	
Estimated OG:	1.070	Actual OG:	1.061
Estimated FG:	1.021	Actual FG:	1.017
Estimated IBU:	47	Actual IBU:	54
Estimated SRM:	14	Actual SRM:	13
Brew Date:	07/29/11	Collected (gal):	5.20
Rack Date:	08/24/11	Racked (gal):	5.00
Bottle Date:	08/24/11	Bottled (gal):	5.00

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

Inventory	
Bottles:	
Gallons:	
Date Checked:	

Efficiency	
Brewhouse:	70%
Batch Size:	61%
Into Boiler:	68%
Into Fermenter:	58%

Yeast Strain	
Yeast Strain:	Fermentis Safale S-04 (Dry Ale)
Type:	Dry Ale
Attenuation (%):	65-75%
Actual Attenuation (%):	73%
Fermentation Temp (F):	59-75F
Flocculation:	medium-high

Yeast Amounts	
Cell Count (billions):	290
Vials (White Labs/Wyeast):	2.5
Dry Yeast (g):	15
Starter Volume (mL):	
DME Required (oz)	
Vials Required (w/ Starter):	

ON BREW DAY

Heat 5 gallons of strike water to 170F  
 Add grain and mash at 154F for 60 minutes  
 Mash-out with 2.32 gallons at 210F, mix and hold for 10 minutes  
 Vorlauf and collect first runnings (approx. 5.07 gallons)  
 Add 4.2 gallons at 184F to lautur tun and sparge  
 Vorlauf and collect second runnings (approx. 4.2 gallons)  
 Boil for a total of 90 minutes with the following hop schedule:  
 1.5 oz. Challenger (UK) @60 minute(s)  
 1.5 oz. Kent Golding @20 minute(s)  
 1.5 oz. Fuggle (US) @20 minute(s)  
 1.5 oz. Kent Golding @0 minute(s)  
 1.5 oz. Fuggle (US) @0 minute(s)

Grain	Pounds	Potential	SG Share	Color	% Bill
Maris Otter Malt	14.25	1.038	0.063	4.0	89.06%
British carastan	1.00	1.035	0.004	34.0	6.25%
Caramel/Crystal 90L	0.75	1.034	0.003	90.0	4.69%

Brewing		
Batch Size (gal):	6.00	Estimated First Runnings (gal): 5.07
Total Grain Weight (lbs):	16.00	Desired Sparge Temperature (F): 170
Grain Temperature (F):	82	Sparge Water (gal): 4.20
Mash Ratio (qts/lb):	1.25	Sparge Water Temperature (F): 184
Mash/Lauter Deadspace (gal):	0.25	Estimated Preboil Volume (gal): 9.27
Total Water Needed (gal):	11.52	Boil Time (min): 90
Desired Mash Temperature (F):	154	Evaporation Rate (gal/hr): 1.68
Strike Water (gal):	5.00	Estimated Evaporation Loss (gal): 2.52
Strike Temperature (F):	170	Trub Loss (gal): 0.75
Grain Absorption (gal):	2.00	Volume Left in Kettle (gal): 0.00
Mash-out Temperature (F):	154	Actual Evaporation Rate (gal/hr): 2.20
Mash-out Water (gal):	2.32	Actual Evaporation Loss (gal): 3.30

Hop	Alpha %	Ounces	Boil Time	IBU	% Bill
Challenger (UK)	7.0%	1.50	60	25.2	15.79%
Kent Golding	5.0%	1.50	20	10.9	15.79%
Fuggle (US)	5.1%	1.50	20	11.1	15.79%
Kent Golding	5.0%	1.50	0	0.0	15.79%
Fuggle (US)	5.1%	1.50	0	0.0	15.79%
Kent Golding	5.0%	2.00	dry	0.0	21.05%

Gravity		Collections	
Potential OG:	1.100	First Runnings (gal):	2.85
OG:	1.061	SG of First Runnings:	1.082
OG Temperature (F):	60	SG Temperature (F):	60
Corrected OG:	1.061	Corrected SG:	1.082
SG at Racking:		Second Runnings (gal):	6.40
SG Temperature (F):		SG of Second Runnings:	1.028
Corrected SG:		SG Temperature (F):	60
FG:	1.017	Corrected SG:	1.028
FG Temperature (F):	53	Estimated Preboil SG:	1.045
Corrected FG:	1.017	Preboil Volume (gal):	9.25
Estimated ABV (%):	6.4%	SG of Preboil Volume:	1.044
Actual ABV (%):	5.8%	SG Temperature (F):	60
IBU to Gravity Ratio:	0.88	Corrected SG:	1.044

Diacetyl Rest		Carbonation	
Target Fermentation Completion:		CO2 Volume:	1.00
Target SG for Diacetyl Rest:		Bottling Temperature (F):	
		Priming Sugar (oz):	
		DME (oz):	
		Forced Carbonation (lbs):	

**Notes**  
 Flavor is bitter, hoppy with some malty notes; I think it will get better with age  
 Maybe a little too bitter and not enough malt.  
 Also next time: reduce flavor and aroma hop additions.  
 And caramelize some of the first runnings?  
 And perhaps ferment low (like an English/Scottish ale).  
 8/12: much, much better beer! nice malt and bitterness.  
 11/6: Looks like overly bitter and slightly astringent.  
 Also, seemed to have picked up a lactic acid infection.  
 First brew with the new HERMS system!

Summary

She's Got Balls Double ESB v2  
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 Batch Size: 6.00 gal (9.27 gal preboil)  
 Estimated OG: 1.070 SG (actual: 1.061 SG)  
 Estimated FG: 1.021 SG (actual: 1.017 SG)  
 Estimated IBUs: 47 (Finseth; actual: 54)  
 Estimated Color: 14 SRM (actual: 16 SRM)  
 Brewhouse Efficiency: 70% (actual: 61%)  
 Boil Time: 90 minutes

**Grains:**  
 14.25# Maris Otter Malt (4.0L) (89.06%)  
 1.00# British carastan (34.0L) (6.25%)  
 0.75# Caramel/Crystal 90L (90.0L) (4.69%)

**Hops:**  
 1.50 oz Challenger (UK) (7.0%) @60 min  
 1.50 oz Kent Golding (5.0%) @20 min  
 1.50 oz Fuggle (US) (5.1%) @20 min  
 1.50 oz Kent Golding (5.0%) @0 min  
 1.50 oz Fuggle (US) (5.1%) @0 min  
 2.00 oz Kent Golding (5.0%) (dry hop)

**Yeast:**  
 Fermentis Safale S-04 (Dry Ale)

**Mash/Sparge Schedule:**  
 Single Infusion, 154F; Batch Sparge  
 Mash for 60 min at 154F w/ 5.00 gal of water at 170F  
 Mashout w/ 2.32 gal of water at 210F; hold for 10 min  
 Batch sparge w/ 4.20 gal of water at 184F; hold for 10 min

**Fermentation Schedule:**  
 Primary Fermentation: 26 days @66F  
 Secondary Fermentation: 0 days @71F

Real Ale Phoenixx: 7.2%; 50 IBUs  
 Substituted Fuggle for Phoenix for this version since it's "harder" to get.  
 Will try dry hopping this time with Kent Goldings.  
 Next time, split the volume 50/50 with mash and sparge.  
 Collected first runnings after 15 min soak and 45 min recirculation.  
 Batch sparged: 5 min soak; 15 min recirculation; collected second runnings.  
 So sparged with 6.5 gal.  
 Low OG but I think next time with 50/50 strike/sparge, it'll be better.  
 8/15: dry hopped  
 8/29: next time, either don't dry hop or do so with only an oz or less.  
 Too much hop aroma; almost no malt in the nose.

User Variables	
12 oz. Bottles Required:	51
Primary Fermentation Temp. (F):	66
Secondary Fermentation Temp (F):	71
FINH IBU Factor (%):	10%
Strike Temperature Factor (F):	4
Sparge Temperature Factor (F):	3
Specific Gravity (P):	15
Specific Gravity (SG):	1.061