

BREWSHEET v2.0 (2010-06-17)

| Batch            |                            |                  |       |
|------------------|----------------------------|------------------|-------|
| Brew Name:       | She's Got Balls Double ESB |                  |       |
| Bottle Top Code: | Calories per Pint:         | 217              |       |
| Estimated OG:    | 1.070                      | Actual OG:       | 1.065 |
| Estimated FG:    | 1.018                      | Actual FG:       | 1.018 |
| Estimated IBU:   | 51                         | Actual IBU:      | 52    |
| Estimated SRM:   | 15                         | Actual SRM:      | 16    |
| Brew Date:       | 09/19/10                   | Collected (gal): | 5.60  |
| Rack Date:       | 10/03/10                   | Racked (gal):    |       |
| Bottle Date:     | 10/03/10                   | 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:                  | 8.0-18.0                                       |
| ABV:                  | 4.6-6.2%                                       |
| CO2:                  | 0.7-1.3  |

| Inventory     |  |
|---------------|--|
| Bottles:      |  |
| Gallons:      |  |
| Date Checked: |  |

| Efficiency      |     |
|-----------------|-----|
| Brewhouse:      | 73% |
| Batch Size:     | 68% |
| Into Boiler:    | 84% |
| Into Fermenter: | 70% |

| Yeast Strain            |                                 |
|-------------------------|---------------------------------|
| Yeast Strain:           | White Labs WLP007 (English Ale) |
| Type:                   | English Ale                     |
| Attenuation (%):        | 70-80%                          |
| Actual Attenuation (%): | 72%                             |
| Fermentation Temp (F):  | 65-70F                          |
| Flocculation:           | medium-high                     |

| Yeast Amounts                |      |
|------------------------------|------|
| Cell Count (billions):       | 265  |
| Vials (White Labs/Wyeast):   | 2.2  |
| Dry Yeast (g):               | 13   |
| Starter Volume (mL):         | 1100 |
| DME Required (oz):           | 3.85 |
| Vials Required (w/ Starter): | 2.0  |

| ON BREW DAY   |  |
|---|--|
| Heat 5.04 gallons of strike water to 166F                       |  |
| Add grain and mash at 152F for 60 minutes                       |  |
| Mash-out with 2.62 gallons at 210F, mix and hold for 10 minutes |  |
| Vorlauf and collect first runnings (approx. 5.47 gallons)       |  |
| Add 2.3 gallons at 193F to lauter tun and sparge                |  |
| Vorlauf and collect second runnings (approx. 2.3 gallons)       |  |
| Boil for a total of 90 minutes with the following hop schedule: |  |
| 1 oz. Challenger (UK) @90 minute(s)                             |  |
| 1 oz. Kent Golding @45 minute(s)                                |  |
| 1 oz. Kent Golding @20 minute(s)                                |  |
| 0.25 oz. Phoenix (UK) @10 minute(s)                             |  |
| 1.75 oz. Phoenix (UK) @0 minute(s)                              |  |

| Summary                                   |  |
|---|--|
| She's Got Balls Double ESB                |  |
| -----                                     |  |
| Batch Size: 5.50 gal (7.76 gal preboil)   |  |
| Estimated OG: 1.070 SG (actual: 1.065 SG) |  |
| Estimated FG: 1.018 SG (actual: 1.018 SG) |  |
| Estimated IBUs: 51 (Finest; actual: 52)   |  |
| Estimated Color: 15 SRM (actual: 15 SRM)  |  |
| Brewhouse Efficiency: 73% (actual: 68%)   |  |
| Boil Time: 90 minutes                     |  |

| Grains: |                              |
|---------|------------------------------|
| 14.00#  | Pale Ale malt (90.32%)       |
| 1.00#   | British carastan (6.45%)     |
| 0.50#   | Caramel/Crystal 150L (3.23%) |

| Grain                | Pounds | Potential | SG Share | Color | % Bill |
|----------------------|--------|-----------|----------|-------|--------|
| Pale Ale malt        | 14.00  | 1.034     | 0.063    | 3.5   | 90.32% |
| British carastan     | 1.00   | 1.035     | 0.005    | 34.0  | 6.45%  |
| Caramel/Crystal 150L | 0.50   | 1.033     | 0.002    | 150.0 | 3.23%  |

| Hop             | Alpha % | Ounces | Boil Time | IBU  | % Bill |
|-----------------|---------|--------|-----------|------|--------|
| Challenger (UK) | 7.0%    | 1.00   | 90        | 19.7 | 20.00% |
| Kent Golding    | 7.2%    | 1.00   | 45        | 17.4 | 20.00% |
| Kent Golding    | 7.2%    | 1.00   | 20        | 11.5 | 20.00% |
| Phoenix (UK)    | 10.0%   | 0.25   | 10        | 2.4  | 5.00%  |
| Phoenix (UK)    | 10.0%   | 1.75   | 0         | 0.0  | 35.00% |

| Brewing                       |       |                                   |      |
|-------------------------------|-------|-----------------------------------|------|
| Batch Size (gal):             | 5.50  | Estimated First Runnings (gal):   | 5.47 |
| Total Grain Weight (lbs):     | 15.50 | Desired Sparge Temperature (F):   | 170  |
| Grain Temperature (F):        | 82    | Sparge Water (gal):               | 2.30 |
| Mash Ratio (qt/lb):           | 1.30  | Sparge Water Temperature (F):     | 193  |
| Mash/Lauter Deadspace (gal):  | 0.25  | Estimated Preboil Volume (gal):   | 7.76 |
| Total Water Needed (gal):     | 9.95  | Boil Time (min):                  | 90   |
| Desired Mash Temperature (F): | 152   | Evaporation Rate (%):             | 13%  |
| Strike Water (gal):           | 5.04  | Estimated Evaporation Loss (gal): | 1.51 |
| Strike Temperature (F):       | 166   | Trub Loss (gal):                  | 0.75 |
| Grain Absorption (gal):       | 1.94  | Volume Left in Kettle (gal):      | 0.05 |
| Mash-out Temperature (F):     | 152   | Actual Evaporation Rate (%):      | 15%  |
| Mash-out Water (gal):         | 2.62  | Actual Evaporation Loss (gal):    | 1.80 |

| Gravity               |       | Collections            |       |
|-----------------------|-------|------------------------|-------|
| Potential OG:         | 1.096 | First Runnings (gal):  | 6.00  |
| OG:                   | 1.062 | SG of First Runnings:  | 1.052 |
| OG Temperature (F):   | 83    | SG Temperature (F):    | 111   |
| Corrected OG:         | 1.065 | Corrected SG:          | 1.060 |
| SG at Racking:        |       | Second Runnings (gal): | 2.20  |
| SG Temperature (F):   |       | SG of Second Runnings: | 1.037 |
| Corrected SG:         |       | SG Temperature (F):    | 78    |
| FG:                   | 1.016 | Corrected SG:          | 1.039 |
| FG Temperature (F):   | 77    | Estimated Preboil SG:  | 1.055 |
| Corrected FG:         | 1.018 | Preboil Volume (gal):  | 8.20  |
| Potential ABV (%):    | 9.2%  | SG of Preboil Volume:  | 1.051 |
| Actual ABV (%):       | 6.1%  | SG Temperature (F):    | 83    |
| IBU to Gravity Ratio: | 0.80  | Corrected SG:          | 1.054 |

| Diacetyl Rest                   |       | Carbonation               |      |
|---------------------------------|-------|---------------------------|------|
| Target Fermentation Completion: | 75%   | CO2 Volume:               | 2.20 |
| Target SG for Diacetyl Rest:    | 1.028 | Bottling Temperature (F): |      |
|                                 |       | Priming Sugar (oz):       |      |

| Fermentation                          |        |
|---------------------------------------|--------|
| CO2 Released During Fermentation (g): | 981.16 |
| Forced Carbonation (lbs):             |        |

| Notes   |  |
|---|--|
| A clone of Real Ale Phoenix Double ESB  | 10/14: Low carbonation; must have a leak in the keg; alcohol smell with maltiness; moderate sweet flavor with maltiness; then a bitterness that kicks you in the ass; so good! |
| ABV: 7.2%; IBU: 50  |  |
| English crystal malt; English hops, highlighted by Phoenix                      |  |
| Use WLP007 for high attenuation; plus mash low.                                 |  |
| First runnings refrac = 14.2 (1.058).   |  |
| Second runnings refrac = 9.4 (1.038).   |  |
| Preboil refrac = 13.0 (1.053).  |  |
| Collected refrac = 15.9 (1.065).  |  |
| 09/30: 1.020 SG; nice and malty; not too bitter.                                |  |
| 10/3: this will be an awesome beer I think; nice bitterness and maltiness play. |  |

| Extra Variables                  |    |
|----------------------------------|----|
| 12 oz. Bottles Required:         | 51 |
| Primary Fermentation Temp. (F):  | 66 |
| Secondary Fermentation Temp (F): | 66 |

| Yeast:   |  |
|--|--|
| White Labs WLP007 (English Ale) (English Ale)              |  |
| <b>Mash/Sparge Schedule:</b>                               |  |
| Single infusion, 152F; Batch Sparge                        |  |
| Mash for 60 min at 152F w/ 5.04 gal of water at 166F       |  |
| Mashout w/ 2.62 gal of water at 210F; hold for 10 min      |  |
| Batch sparge w/ 2.30 gal of water at 193F; hold for 10 min |  |
| <b>Fermentation Schedule:</b>                              |  |
| Primary Fermentation: 14 days @66F                         |  |
| Secondary Fermentation: 0 days @66F                        |  |