BREWSHEET v3.4 (2014-12-14)

user input
calculated

Brew			
Name:	Back in Black IPA		
Brew Date:	2015 December 13	Collected (gal):	5.60
Rack Date:		Racked (gal):	
Keg/Bottle Date:	2016 January 14	Kegged/Bottled (gal):	5.00
Estimated		**Actual**	
ABV (%):	5.8%	ABV (%):	5.2%
OG (SG):	1.060	OG (SG):	1.054
FG (SG):	1.016	FG (SG):	1.014
IBU:	60.8	IBU:	63.1
SRM:	32.5	SRM:	32.1
IBU/Gravity Ratio:	1.02	IBU/Gravity Ratio:	1.17

Grain	Pounds	Potential	SG Share	Color	% Bill
Pale Malt (2-Row) US	10.00	1.036	0.046	2.0	74.77%
Caramel/Crystal 75L	1.50	1.034	0.006	75.0	11.21%
Caramel/Crystal 150L	0.50	1.033	0.002	150.0	3.74%
Chocolate Malt	0.38	1.028	0.001	350.0	2.80%
German carafa	0.38	1.030	0.001	400.0	2.80%
Flaked oats	0.63	1.033	0.003	2.2	4.67%

Hop	Type	Ounces	Boil Time	Alpha %	IBU	% Bill
Simcoe	L	1.50	fwh	11.9%	49.2	18.18%
Simcoe	L	1.50	5	11.9%	8.9	18.18%
Cascade	P	0.75	5	6.3%	2.7	9.09%
Simcoe	L	1.50	0	11.9%	0.0	18.18%
Cascade	P	0.75	0	6.3%	0.0	9.09%
Simcoe	P	1.50	dry	11.9%	0.0	18.18%
Cascade	P	0.75	dry	6.3%	0.0	9.09%

Design Notes

Batch Variables and Calculations	
Batch Size (gal):	5.50
Grain Temperature (F):	76
Total Grain Weight (lbs):	13.38
Mash	
Mash Time (min):	60
Desired Mash Temperature (F):	156
Strike Water (gal):	5.85
Strike Temperature (F):	172
Mash Ratio (qts/lb):	1.75
Grain Absorption (gal):	1.67
Mash Volume (gal):	6.92
Mash-out Temperature (F):	168
Estimated First Runnings (gal):	4.04
First Runnings (gal):	4.40
First Runnings Gravity (Brix):	16.10
First Runnings Gravity (SG):	1.062
Sparge	
Desired Sparge Temperature (F):	168
Sparge Water (gal):	3.57
Sparge Water Temperature (F):	172
Estimated Second Runnings (gal):	4.04
Second Runnings (gal):	3.80
Second Runnings Gravity (Brix):	7.10
Second Runnings Gravity (SG):	1.028
Estimated Preboil Volume (gal):	8.08
Estimated Preboil Gravity (Brix):	11.93
Preboil Volume (gal):	8.20
Preboil Gravity (Brix):	11.40
Preboil Gravity (SG):	1.044
Extraction Efficiency (%):	77%
Boil	
Boil Time (min):	60
Estimated Evaporation Loss (gal):	1.28
Hop Absorption (gal):	0.49
Volume Left in Kettle (gal):	0.00
Actual Evaporation Rate (gal/hr):	1.30
Actual Evaporation Loss (gal):	1.30
Original Gravity (Brix):	13.85
Batch Size Efficiency (%):	63%
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):	7
Secondary Fermentation Temperature (F):	66
Gravity After Secondary Fermentation (SG):	
Temperature of Reading (F):	
Corrected SG:	
Tertiary Fermentation (days):	3
Tertiary Fermentation Temperature (F):	32
Final Gravity (SG):	1.014
Temperature of Reading (F):	40
Corrected SG:	1.014
Target Fermentation for Diacetyl Rest (%):	
Target Gravity for Diacetyl Rest (SG):	
Calories per Pint:	178
12 oz. Bottles Required:	51
Carbonation	
Bottling Temperature (F):	
Volumes of CO2:	1.90
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):	1.28
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:	Cascadian Dark Ale
Code:	
OG:	1.060-1.075
FG:	1.008-1.016
IBU:	60.0-90.0
SRM:	30.0-40.0
ABV:	
CO2:	1.5-2.3

Yeast Strain	
Yeast Strain:	Danstar American West Coast (Dry Ale)
Type:	Dry Ale
Attenuation (%):	70-78%
Actual Attenuation (%):	74%
Fermentation Temp (F):	60-70F
Flocculation:	high

Required Amounts	
Cell Count (billions):	228
Vials (White Labs/Wyeast):	
Dry Yeast (g):	11.5
Yeast Starter/Slurry	
Vials (White Labs/Wyeast):	
Date Yeast Produced:	
Yeast Viability (%):	
Yeast Growth Rate:	
Yeast Innoculation 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:	1.060	Total Weight (lbs):		26.79
Batch Size (gal):	11.00	Total Bill:		100.00%
Brewhouse Efficiency (%):	70%			
Grain	**Pounds**	**Potential**	**Color**	**% Bill**
Pale Malt (2-Row) US	20.09	1.036	2.0	75.00%
Caramel/Crystal 90L	2.01	1.034	90.0	7.50%
Caramel/Crystal 60L	2.01	1.034	60.0	7.50%
Chocolate Malt	0.67	1.028	350.0	2.50%
German carafa	0.67	1.030	400.0	2.50%
Flaked oats	1.34	1.033	2.2	5.00%

Poundage		
Goal (lbs):	10.00	
Amount (lbs | oz.f_oz):	2	8.35
Amount (lbs | oz.f_oz):	2	0.80
Amount (lbs | oz.f_oz):	2	6.87
Amount (lbs | oz.f_oz):	2	10.79
Amount (lbs | oz.f_oz):		
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Amount (lbs | oz.f_oz):		
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Amount (lbs | oz.f_oz):		
Amount (lbs | oz.f_oz):		
Needed (lbs | oz.f_oz):	0	5.19

Hydrometer Correction		
SG:	1.052	
Temperature (F):	66	
Corrected SG:	1.054	

Gravity Calculator			
Brix:	12.40	13.85	
Specific Gravity:	1.048	1.054	
Degrees Plato:	11.89	13.21	

Brix Ethanol Correction	
Original Brix:	
Current Brix:	
SG:	

Brewing Notes

1/3: dry hopped

1/14: 1.014 FG (5.2% ABV); aroma is nice and citrusy with a hint of roast and chocolate; flavor is fleeting citrus to roast and chocolate with a slight (good) astringency from the grains; finish is bitter with fading citrus that brings out the dark grain character.

2/5: Delicious, thick, and smooth. Not as bitter as I expected, perhaps due to the oats. Nice and and hoppy aroma with a roast backbone. Flavor is incredible with hops and malt and roast.