BREWSHEET v2.5 (201[illegible]3)

Batch			
Brew Name:	The Ballb[illegible]ottish Dry Stout)		
Bottle Top Code:		[illegible]er Pint:	145
Estimated OG:	1.044	[illegible]G:	1.044
Estimated FG:	1.012	[illegible]G:	1.016
Estimated IBU:	34	[illegible]al IBU:	33
Estimated SRM:	38	Actual SRM:	37
Brew Date:	10/15/11	Collected (gal):	5.65
Rack Date:		Racked (gal):	5.10
Bottle Date:		Bottled (gal):	5.00

BJCP Style Guidelines	
Style:	Dry Stout
Code:	13A
OG:	1.036-1.050
FG:	1.007-1.011
IBU:	30.0-45.0
SRM:	25.0-40.0
ABV:	4.0-5.0%
CO2:	1.6-2.0

Inventory	
Bottles:	
Gallons:	
Date Checked:	

Efficiency	
Brewhouse:	70%
Batch Size:	70%
Into Boiler:	77%
[illegible]enter:	73%

[illegible]ast Strain	
Yeast Strain:	White Labs WLP028 (Edinburgh Scottish A
Type:	Edinburgh Scottish Ale
[illegible]uation (%):	70-75%
[illegible] Attenuation (%):	63%
[illegible]entation Temp (F):	65-70F
[illegible]ulation:	medium

Yeast Amounts	
[illegible]Count (billions):	171
[illegible](White Labs/Wyeast):	1.5
[illegible]east (g):	9
[illegible]er Volume (mL):	2000
[illegible] Required (oz)	7.00
[illegible] Required (w/ Starter):	1.0

Grain	Pounds	Potential	SG Share	Color	% Bill
Maris Otter Malt	2.00	1.038	0.010	4.0	20.00%
Pale Malt (2-Row) US	5.00	1.036	0.023	2.0	50.00%
Flaked barley	1.50	1.032	0.006	1.7	15.00%
Roasted barley	1.25	1.028	0.004	450.0	12.50%
Peated malt	0.13	1.038	0.001	5.0	1.25%
Chocolate malt	0.13	1.028	0.000	350.0	1.25%

Brewing	
Batch Size (gal):	5.50
Total Grain Weight (lbs):	10.00
Grain Temperature (F):	75
Mash Ratio (qts/lb):	1.25
Mash/Lauter Deadspace (gal):	0.25
Total Water Needed (gal):	10.30
Desired Mash Temperature (F):	150
Strike Water (gal):	3.13
Strike Temperature (F):	167
Grain Absorption (gal):	1.25
Mash-out Temperature (F):	150
Mash-out Water (gal):	1.81

[illegible]	
[illegible]d First Runnings (gal):	3.44
[illegible]Sparge Temperature (F):	170
[illegible]Water (gal):	5.36
[illegible]Water Temperature (F):	180
[illegible]d Preboil Volume (gal):	8.80
[illegible] (min):	90
[illegible]on Rate (gal/hr):	1.70
[illegible]d Evaporation Loss (gal):	2.55
[illegible]s (gal):	0.75
[illegible]eft in Kettle (gal):	0.10
[illegible]aporation Rate (gal/hr):	1.533
[illegible]aporation Loss (gal):	2.30

Hop	Alpha %	[illegible]ounces	Boil Time	[illegible]IBUs	[illegible] Bill
Challenger (UK)	7.0%	1.00	80	24.5	33.33%
Golding (US)	4.0%	1.00	15	6.6	33.33%
Willamette	4.8%	1.00	5	3.2	33.33%

Gravity	
Potential OG:	1.063
OG:	1.044
OG Temperature (F):	60
Corrected OG:	1.044
SG at Racking:	1.016
SG Temperature (F):	67
Corrected SG:	1.017
FG:	1.017
FG Temperature (F):	48
Corrected FG:	1.016
Estimated ABV (%):	4.2%
Actual ABV (%):	3.6%
IBU to Gravity Ratio:	0.74

Collections	
[illegible]nings (gal):	4.05
[illegible]st Runnings:	1.047
[illegible]erature (F):	60
[illegible]d SG:	1.047
[illegible]Runnings (gal):	4.75
[illegible]cond Runnings:	1.016
[illegible]erature (F):	60
[illegible]d SG:	1.016
[illegible]d Preboil SG:	1.030
[illegible]olume (gal):	8.80
[illegible]eboil Volume:	1.030
[illegible]erature (F):	60
[illegible]d SG:	1.030

Diacetyl Rest	
Target Fermentation Completion:	
Target SG for Diacetyl Rest:	

Carbonation	
[illegible]ume:	1.80
[illegible]emperature (F):	
[illegible]Sugar (oz):	
[illegible] (oz):	

Fermentation	
CO2 Released During Fermentation (g):	587.02
Forced Carbonation (lbs):	

ON BREW DAY
[illegible]3.13 gallons of strike water to 167F
[illegible]grain and mash at 150F for 60 minutes
[illegible]-out with 1.81 gallons at 210F, mix and hold for 10 minutes
[illegible]Vorlauf and collect first runnings (approx. 3.44 gallons)
Add 5.36 gallons at 180F to lauter tun and sparge
[illegible]Vorlauf and collect second runnings (approx. 5.36 gallons)
[illegible]or a total of 90 minutes with the following hop schedule:
[illegible]oz. Challenger (UK) @80 minute(s)
[illegible]oz. Golding (US) @15 minute(s)
[illegible]oz. Willamette @5 minute(s)

Notes	
Targets: 1.044 SG, 35 IBU, 40 SRM, ~4.5% ABV	Interesting because this has less peat than scunner and yet it is much stronger!
Going with a more "American" version with a few late addition hops.	Flavor is nice; roast and a tiny chocolate undertone. Peat comes out in the aftertaste which mixes with a mil
Boil about 4 qt of first runnings and reduce to 1 qt; add with 5 mins left in boil.	Not yet fully carbonated, but nice.
Ferment at 60F for 3 to 4 weeks	I suppose I won't use peat malt next time; let the yeast contribute smoke instead.
Condition in secondary (keg) at 70F for 2 to 3 weeks	
Strike: 6.15 gal (~2.5 mash ratio); sparge: 4.9 gal.	
10/15: pulled 2 qts first runnings and boiled to 0.5 qts; added at 5 mins left in boil.	
11/13: wow! Nice and dry already, great chocolate aroma and flavor and a hint of peat/smoke!	
12/4: roast is there with a slight hint of smoke; a bit malty; dry.	
12/8: Interesting aroma that seems to be a mix of peat malt with roasted barley and chocolate ma	
It feels sweet initially in the aroma with this combination.	

User Variables	
12 oz. Bottles Required:	51
Primary Fermentation Temp. (F):	60
Secondary Fermentation Temp (F):	70
FWH IBU Factor (%):	10%
Strike Temperature Factor (F):	5
Sparge Temperature Factor (F):	3
Mash Time (min):	75
Specific Gravity (Brix):	11.4
Specific Gravity (SG):	1.044

Summary

[illegible]Ballbreaker (Scottish Dry Stout)

[illegible]----------

[illegible]h Size: 5.50 gal (8.80 gal preboil)
Estimated OG: 1.044 SG (actual: 1.044 SG)
Estimated FG: 1.012 SG (actual: 1.016 SG)
[illegible]mated IBUs: 34 (Tinseth; actual: 33)
[illegible]mated Color: 38 SRM (actual: 37 SRM)
[illegible]house Efficiency: 70% (actual: 70%)
[illegible] Time: 90 minutes

[illegible]ns:
[illegible]# Maris Otter Malt (4.0L) (20.00%)
[illegible]# Pale Malt (2-Row) US (2.0L) (50.00%)
1.50# Flaked barley (1.7L) (15.00%)
1.25# Roasted barley (450.0L) (12.50%)
0.13# Peated malt (5.0L) (1.25%)
0.13# Chocolate malt (350.0L) (1.25%)

Hops:
1.00 oz Challenger (UK) (7.0%) @80 min
1.00 oz Golding (US) (4.0%) @15 min
1.00 oz Willamette (4.8%) @5 min

[illegible]st:
White Labs WLP028 (Edinburgh Scottish Ale)
[illegible] mL starter; ferment, crash cool and decant

[illegible]/Sparge Schedule:
[illegible]le Infusion, 150F, 75 min; Batch Sparge

Fermentation Schedule:
Primary Fermentation: 29 days @60F
Secondary Fermentation: 21 days @70F