

# Bells Oberon-20190407\_on\_template 3.1.xlsx

Category: 1. Standard American Beer  
 Style: 1D. American Wheat Beer

Brewer:   
 Brew Date:

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Grain Bill, Adjuncts, & Sugars		
Type	Qty lb	% of Bill
Pale Malt: Brewers Malt, 2-row (Briess)	12.00	46.2%
Wheat Malt: Wheat Malt, White (Briess)	12.00	46.2%
Munich Malt: Bonlander® Munich Malt 10L (Briess)	1.00	3.8%
Dextrin Malt: Carapils® (Briess)	1.00	3.8%

Recipe Outputs		
	Design	Actual
Extract Eff.:	70.0%	62.3%
Brewhouse Eff.:	61.8%	51.8%
Pre-Boil SG:	1.050	1.044
O.G.:	1.056	1.054
F.G.:	1.011	1.012
Ferm Vol:	44.0	38.0
Batch Vol:	40.0	34.0
App Atten:	81.0%	78.5%
IBUs:	24	27
ABV:	5.9%	5.5%
SRM:	4.5	5.0

Water Information		
Chicago (Lake Michigan)		
ppm (mg/L)	Orig.	Adj.
Calcium	37	79
Magnesium	12	15
Sodium	9	9
Chloride	16	68
Sulfate	25	66
Alkalinity	102	<del> </del>
Cl/SO <sub>4</sub> Ratio	0.64	1.04

Brewing Process Parameters			
Name	Design	Actual	Units
Total Water Req'd	70.29	<del> </del>	qt
Ambient Grain Temp	68.0	64.0	°F
Desired Mash Temp	152.0	152.8	°F
Strike Water Volume	39.00	38.00	qt
Strike Water Temp	163.7	165	°F
Estimated Mash pH	5.9	<del> </del>	<del> </del>
Mash Time	75	75	min
Sparge Water Req'd	31.29	<del> </del>	qt
Batch Sparge	Add	3.40	5.00 qt
	Drain	27.90	41.00 qt
	Add/Drain	27.90	28.00 qt
	Add/Drain	0.00	<del> </del> qt
Pre-Boil Volume	55.79	56.00	qt
Grain Absorption Rate	0.50	0.02	qt/lb
Preferred SG Tool	Hydrometer		
Pre-Boil SG Grains Only	Hydro. Corr SG	1.050	1.040 Temp 90.0
	Refract. Corr SG	12.3	11.0 ° Brix 1.044 <del> </del>
Pre-Boil SG Total	Hydro. Corr SG	1.050	1.044 Temp 60.0
	Refract. Corr SG	12.3	11.0 ° Brix 1.044 <del> </del>
Boil Time	60	120	min
Post-Boil Volume	49.80	45.00	qt
Boil-Off Rate	4.00	4.50	qt/hr
Original Gravity	Hydro. Corr SG	1.056	1.054 Temp 60.0
	Refract. Corr SG	13.7	13.4 ° Brix 1.054 <del> </del>
Fermenter Volume	44.00	38.00	qt
Hop Absorption Rate	0.10	0.25	qt/oz
Final Gravity	Hydro. Corr SG	1.011	1.012 Temp 66.5
	Refract. Corr SG	2.7	<del> </del> ° Brix <del> </del>
Target Batch Size	40.0	34.0	qt

Hop Bill & Schedule					
Species	Type	Alpha (%)	Qty oz	AAU	Time (min)
Hersbrucker (German)	Pellet	3.5	2.00	7.0	60
Hersbrucker (German)	Pellet	3.5	2.00	7.0	30
Saaz (Czech)	Pellet	2.8	4.00	11.2	Hop Stand (20)

Water Additions (grams)		
	Mash	Sparge
Gypsum	2.0	1.6
Cal Chloride	4.0	3.2
Epson Salt	1.0	0.8
Slaked Lime	0.0	0.0
Baking Soda	0.0	0.0
Chalk	0.0	0.0

Yeast Information		
Fermentis		
SafAle US-05		
Ferm Temp:	64-82	°F

Forced Carbonation		
CO2 Volume	2.5	<del> </del>
Temperature	38.0	°F
Pressure	11.2	PSI

Other Ingredients/Additions	Amount	When
Yeast Starter from Bells House Strain	1 L	Fermentation

**NOTES:** 75 minute mash to give wheat more time to convert. Yeast options: Bells house strain, WLP001, Wyeast 1056, US-05, A07 Flagship, BRY-97. Ferment in 68-74 deg F range. This batch was split into two fermenters; one with Bell's yeast cultured from bottles and one with US-05. Bells yeast finished at 1.013 while the US-05 finished at 1.011. The Bells yeast version tasted the best by FAR. The US-05 strain, being a neutral yeast, made the beer taste somewhat like a plain wheat beer; decent but not great. Our boil hops were very low in alpha acids (1.8%) requiring me to double up on boil hops quantities compared to the recipe (8 vs 4 oz) above. This created much loss of wort due to hop absorption.