Style:	13B. British Brown Ale	**Brewer:**	Beer-N-BBQ by Larry	**Brew System:**	BrewEasy Compact, 65% PWR, Sparge Req'd
		Brew Date:		**Chiller:**	JaDeD Scylla
				Fermenter(s):	Spike Flex+

Grain Bill, Adjuncts, & Sugars

Type	Qty lb	% of Bill
Pale Malt: Brewers Malt, 2-row (Briess)	7.00	78.2%
Caramel Malt: Caramel Malt 80L (Briess)	0.85	9.5%
Biscuit Malt: Victory® Malt (Briess)	0.85	9.5%
Chocolate Malt: Crisp Pale Chocolate Malt	0.25	2.8%

Recipe Outputs / BJCP Guide

	Design	Actual	BJCP Guide Min	BJCP Guide Max
Extract Eff.:	82.0%			
Brewhouse Eff:	76.7%			
O.G.:	1.046		1.040	1.052
F.G.:	1.010		1.008	1.013
Ferm Vol:	22.0			
Batch Vol:	20.0			
App Atten:	79.0%			
IBUs:	23	#VALUE!	20	30
ABV:	4.7%		4.2%	5.4%
SRM:	14.0	#VALUE!	12	22
BU:GU Ratio:	0.50	#VALUE!		
Calories per US Pint:		209		

Water Information

Chicago (Lake Michigan)

ppm (mg/L)	Orig.	Adj.
Calcium	37	129
Magnesium	12	12
Sodium	9	9
Choride	16	115
Sulfate	25	113
Alkalinity	102	
Cl/SO_4 Ratio	0.64	1.02

Water Additions (grams)

	Mash	Sparge
Gypsum	2.0	2.4
Cal Chloride	2.6	3.2
Epson Salt	0.0	0.0
Slaked Lime	0.0	0.0
Baking Soda	0.0	0.0
Chalk	0.0	0.0
Lactic Acid	0	mL

Yeast Information

Fermentis

SafAle S-04

Ferm Temp: 59-68 °F

Forced Carbonation

CO2 Volume	2.3	
Temperature	38.0	°F
Pressure	9.1	PSI

Total Water Required

Design	29.2	qt	70.0	°F	Actual		qt		°F

Mash Schedule & Water Infusions

Step #	Schedule Temp °F	Schedule Time min	Strike Water (Preheated Tun) Design qt	Design °F	Actual qt	Actual °F	Mash Actual °F	Mash pH Design	Mash pH Actual
1	154	60	13.5	165				5.6	
2									
3									
4									
5									

Lautering Process (Wort Separation)

		Design qt	Design °F	Actual qt	Actual °F	Corrected qt	Corrected °F
Fly Sparge	Sparge Water Req'd	16.4	154.0				154.0
	-	-	-				
	-	-	-				
	Time Req (min) @ 0.75qt/min	39.7	-				
	Wort Collected	25.0	154.0				154.0
	Grain Absorb Rate	0.40	qt/lb		qt/lb		
Grains Only Contribution	S.G. Hydrometer	1.043				°F	
	S.G. Refractometer	10.8	° Brix		° Brix		
	Mash Extract Efficiency	82%			Hydrometer		
					Refractometer		

Boil Process

		Design		Actual		Corrected	
Boil	Start Volume	25.5	qt		qt		
	Time	60	min		min		
	End Volume (w/ IC)	25.5	qt		qt		
	Boil off Rate	2.0	qt/hr		qt/hr		
Post Boil	Chilled Volume	22.6	qt		qt	0.0	qt
		75	°F		°F	75	°F
O.G.	Hydrometer	1.046				°F	
	Refractometer	11.4			° Brix		

Fermentation & Clarification

		Design qt	Design °F	Actual qt	Actual °F	Corrected	
Into Fermenter		22.0	75.0				
Into Bright Tank or Aging Vessel							
F.G.	Hydrometer	1.010				°F	
	Refractometer	2.5	° Brix		° Brix		
Packaged Beer		20.0	qt		qt		

Hop Bill & Schedule

Species	Type	Alpha (%)	Qty oz	AAU	Time (min)
Fuggle (U.K.)	Pellet	5.6	1.00	5.6	60
Fuggle (U.K.)	Pellet	3.9	0.50	2.0	15
Fuggle (U.K.)	Pellet	3.9	0.50	2.0	1

Other Ingredients/Additions	Amount	When
Whirlfloc tablets	1	15 min

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NOTES:
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• Fermentation: Ferment ~2 weeks at ~68 deg F.
• Cold crash to 36 F for 2+ days.
•
• Rack via closed transfer and chill.
• Carbonate then pour off sediment.
•
• Brew Day note: