

ALL RECOMMENDED PRODUCTS AVAILABLE THROUGH BREW UK

Jamie Turner  
24 Oster St  
St Albans  
Herts  
AL3 5JL

May 31, 2016

Dear Jamie

Please find below the results of your liquor analysis plus a recommendation for treating both the liquor and mash.

**Bitters and Pale Ales**

- Sample - Liquor
- Lab Number - CJF 3101

Ions (All figures in ppm)	AMS	DWB	Raw Liquor	Theoretical Wort Values Pre Fermentation	Targets	
					Lower	Upper
pH			7.13	N/A	N/A	N/A
Nitrate			29.30	29.3	0	50
Total Hardness (as CaCO <sub>3</sub> )			308.00	N/A	N/A	N/A
Calcium		125	61.47	186.47	180	220
Magnesium		3.8	2.88	6.68	0	50
Chloride	79	123	27.63	229.63	150	250
Sulphate	109	257	23.45	389.45	250	450
Alkalinity (as CaCO <sub>3</sub> )	-224		280.00	56	20	60

- AMS - 30ml per 25 lts of liquor to be used, all liquor to be treated
- DWB - 17g per 25 lts of beer to be made, to be mixed in with the mash

**Stouts, Porters and Milds**

Ions (All figures in ppm)	AMS	Calcium Chloride Flake	Raw Liquor	Theoretical Wort Values Pre Fermentation	Targets	
					Lower	Upper
pH			7.13	N/A	N/A	N/A
Nitrate			29.30	29.3	0	50
Total Hardness (as CaCO <sub>3</sub> )			308.00	N/A	N/A	N/A
Calcium		117.5	61.47	178.97	120	200
Magnesium			2.88	2.88	0	50
Chloride	34	210	27.63	271.63	250	350
Sulphate	47		23.45	70.45	50	150
Alkalinity (as CaCO <sub>3</sub> )	-96		280.00	184	100	200

- AMS - 13ml per 25 lts of liquor to be used, all liquor to be treated
- Calcium Chloride Flake - 11g per 25 lts of beer to be made, to be mixed in with the mash

**Lagers and Pilsners**

Ions (All figures in ppm)	Lactic Acid 80%	Calcium Chloride Flake	Calcium Sulphate	Raw Liquor	Theoretical Wort Values Pre Fermentation	Targets	
						Lower	Upper
pH				7.13	N/A	N/A	N/A
Nitrate				29.30	29.3	0	50
Total Hardness (as CaCO <sub>3</sub> )				308.00	N/A	N/A	N/A
Calcium		47	20	61.47	128.47	120	200
Magnesium				2.88	2.88	0	50
Chloride		84		27.63	111.63	0	200
Sulphate			48	23.45	71.45	0	200
Alkalinity (as CaCO <sub>3</sub> )	-250			280.00	30	20	60

- Lactic Acid 80% - 25ml per 25 lts of liquor to be used, all liquor to be treated
- Calcium Chloride Flake - 4.3g per 25 lts of beer to be made, to be mixed in with the mash
- Calcium Sulphate - 2.3g per 25 lts of beer to be made, to be mixed in with the mash

Yours Sincerely



Paul Taylor  
Laboratory Manager