

[ALL RECOMMENDED PRODUCTS AVAILABLE THROUGH BREW UK](#)

February 2, 2018

Dear Paul,

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

- Sample - Liquor
- Lab Number - 1039

Bitters IPA's and Pale Ales

Ions (All figures in ppm)	AMS	DWB	Raw Liquor	Theoretical Wort Values Pre Fermentation	Targets	
					Lower	Upper
pH			7.09	N/A	N/A	N/A
Nitrate			35.20	N/A	N/A	N/A
Total Hardness (as CaCO ₃)			249.00	N/A	N/A	N/A
Calcium		93.8	94.78	188.58	180	220
Magnesium		2.8	2.21	5.01	0	50
Chloride	56	92.3	28.80	177.1	150	250
Sulphate	78	193	16.48	287.48	250	400
Alkalinity (as CaCO ₃)	-160		198.00	38	20	50

- AMS - 21.78 ml per 25 lts of liquor to be used, all liquor to be treated
- DWB - 13.04 g per 25 lts of beer to be made, to be mixed in with the mash

Stouts

Ions (All figures in ppm)	AMS	Calcium Chloride Flake	Calcium Sulphate	Salt	Raw Liquor	Theoretical Wort Values Pre Fermentation	Targets	
							Lower	Upper
pH					7.09	N/A	N/A	N/A
Nitrate					35.20	N/A	N/A	N/A
Total Hardness (as CaCO ₃)					249.00	N/A	N/A	N/A
Calcium		23.5	20		94.78	138.28	120	140
Magnesium					2.21	2.21	0	50
Chloride	22.5	42		157.5	28.80	250.8	240	320
Sulphate	31		48		16.48	95.48	80	120
Alkalinity (as CaCO ₃)	-64				198.00	134	20	150

- AMS - 8.7ml per 25 lts of liquor to be used, all liquor to be treated
- Calcium Chloride Flake - 2.3 g per 25 lts of beer to be made, to be mixed in with the mash
- Calcium Sulphate - 2.3 g per 25 lts of beer to be made, to be mixed in with the mash
- Sodium Chloride (Table Salt) - 6.4 g 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				7.09	N/A	N/A	N/A
Nitrate				35.20	N/A	N/A	N/A
Total Hardness (as CaCO ₃)				249.00	N/A	N/A	N/A
Calcium		23.5	20	94.78	138.28	120	140
Magnesium				2.21	2.21	0	50
Chloride		42		28.80	70.8	50	200
Sulphate			48	16.48	64.48	50	200
Alkalinity (as CaCO ₃)	-156			198.00	42	20	50

- Lactic Acid 80% - 15.3ml per 25 lts of liquor to be used, all liquor to be treated
- Calcium Chloride Flake - 2.3g 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

Richard Haywood

M Brew Technical Manager