

MAL-12B

*American Society of Brewing Chemists*  
**MALT CHECK SERVICE**

12/31/2016

| <i>Sub #</i> | <i>Moisture (%)</i> | <i>% Extract - Fine Ground (D.B.)</i> | <i>% Extract - Coarse Ground (D.B.)</i> | <i>% Fine - Coarse Difference</i> | <i>Conversion Time (min)</i> | <i>Clarity of Wort (visual)</i> | <i>Color of Wort, 1/2" cell (ASBC)</i> | <i>Diastatic Power, Salt Ext. (Deg.)</i> | <i>Alpha-amylase, Salt Ext.</i> | <i>Soluble Protein</i> | <i>Total Malt Protein</i> | <i>Soluble/Total Protein (D.B.)</i> |
|--------------|---------------------|---------------------------------------|---|-----------------------------------|------------------------------|---------------------------------|--|--|---------------------------------|------------------------|---------------------------|-------------------------------------|
| B 25         | 4.5                 | 81.1                                  | 80.2                                    | 0.9                               |                              |                                 | 2.06                                   | 160                                      | 63.4                            | 4.95                   | 11.5                      | 43.0                                |
| B 30         | 4.3                 | 80.5                                  | 79.1                                    | 1.4                               |                              |                                 | 2.01                                   | 145                                      | 64.0                            | 5.14                   | 12.2                      | 42.1                                |
| B 32         | 4.5                 | 81.0                                  | 80.1                                    | 0.9                               |                              |                                 | 1.83                                   | 150                                      | 63.5                            | 5.07                   | 12.0                      | 42.4                                |
| B 43         | 4.3                 | 81.0                                  | 79.9                                    | 1.1                               | 5                            | CLEAR                           | 1.94                                   | 142                                      | 58.1                            | 5.00                   | 11.7                      | 42.7                                |
| B 54         | 4.3                 | 81.5                                  | 80.4                                    | 1.1                               | 5                            | CLEAR                           | 1.82                                   | 149                                      | 63.1                            | 4.87                   | 11.5                      | 42.4                                |
| B 55         | 4.4                 | 80.9                                  | 80.4                                    | 0.5                               |                              |                                 | 2.03                                   | 137                                      | 67.5                            | 5.10                   | 11.7                      | 43.3                                |
| B 129        | 4.4                 | 81.4                                  | 80.5                                    | 0.9                               | 5                            | CLEAR                           | 1.82                                   | 149                                      | 63.2                            | 4.91                   | 11.8                      | 41.6                                |
| B 180        | 4.6                 | 81.2                                  | 80.1                                    | 1.1                               | 5                            | CLEAR                           | 1.86                                   | 139                                      | 62.3                            | 5.03                   | 11.7                      | 42.8                                |
| B 189        | 4.3                 | 80.4                                  | 79.4                                    | 1.1                               | 5                            | CLEAR                           | 1.87                                   | 140                                      | 65.4                            | 4.80                   | 11.7                      | 42.1                                |
| B 213        | 4.4                 | 80.8                                  | 79.7                                    | 1.1                               |                              | CLEAR                           | 1.86                                   | 152                                      | 60.9                            | 5.01                   | 12.0                      | 41.8                                |
| <b>N</b>     | <b>10</b>           | <b>10</b>                             | <b>10</b>                               | <b>10</b>                         |                              |                                 | <b>10</b>                              | <b>10</b>                                | <b>10</b>                       | <b>10</b>              | <b>10</b>                 | <b>10</b>                           |
| <b>Mean</b>  | <b>4.4</b>          | <b>81.0</b>                           | <b>80.0</b>                             | <b>1.0</b>                        |                              |                                 | <b>1.91</b>                            | <b>146.3</b>                             | <b>63.1</b>                     | <b>4.99</b>            | <b>11.8</b>               | <b>42.4</b>                         |
| <b>Min</b>   | <b>4.3</b>          | <b>80.4</b>                           | <b>79.1</b>                             | <b>0.5</b>                        |                              |                                 | <b>1.82</b>                            | <b>137</b>                               | <b>58.1</b>                     | <b>4.80</b>            | <b>11.5</b>               | <b>41.6</b>                         |
| <b>Max</b>   | <b>4.6</b>          | <b>81.5</b>                           | <b>80.5</b>                             | <b>1.4</b>                        |                              |                                 | <b>2.06</b>                            | <b>160</b>                               | <b>67.5</b>                     | <b>5.14</b>            | <b>12.2</b>               | <b>43.3</b>                         |
| <b>Std</b>   | <b>0.1</b>          | <b>0.4</b>                            | <b>0.5</b>                              | <b>0.2</b>                        |                              |                                 | <b>0.09</b>                            | <b>7.1</b>                               | <b>2.5</b>                      | <b>0.11</b>            | <b>0.2</b>                | <b>0.5</b>                          |

\* Not Included in Mean

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| Sub #       | Growth of Acrospires |            |            |             |             | Screen Assortment |             |            |            | FAN<br>(ppm) | Absolute<br>Viscosity | Turbidity<br>(NTU) | Beta Glucan<br>wort (mg/L) |
|-------------|----------------------|------------|------------|-------------|-------------|-------------------|-------------|------------|------------|--------------|-----------------------|--------------------|----------------------------|
|             | 0-1/4                | 1/4-1/2    | 1/2-3/4    | 3/4-1       | Overgrown   | On 7/64"          | On 6/64"    | On 5/64"   | Thru 5/64" |              |                       |                    |                            |
| B 25        | 0                    | 2          | 8          | 76          | 14          | 75.5              | 20.2        | 3.7        | 0.6        | 188.0        | 1.49                  | 6.0                | 91                         |
| B 30        | 2                    | *          | 0          | 0           | 77          | 74.3              | 19.0        | 6.1        | 0.6        | 191.0        | 1.49                  | 6.3                | 94                         |
| B 32        |                      |            |            |             |             | 72.0              | 23.4        | 5.1        | 0.4        | 178.0        |                       | 6.0                | 90                         |
| B 43        | 1                    | 2          | 6          | 88          | 3           | 73.1              | 21.7        | 4.6        | 0.6        | 187.0        | 1.47                  | 6.1                | 84                         |
| B 54        |                      |            |            |             |             | 71.3              | 22.0        | 6.3        | 0.4        | 189.0        | 1.47                  | 4.7                | 89                         |
| B 55        |                      |            |            |             |             |                   |             |            |            | 185.5        | 1.47                  |                    | 63                         |
| B 129       | 0                    | 2          | 9          | 89          | 0           | 74.7              | 20.0        | 4.6        | 0.7        | 200.0        | 1.51                  | 6.3                | 92                         |
| B 180       | 3                    | 2          | 3          | 91          | 1           | 71.3              | 22.0        | 6.3        | 0.4        | 219.0        | 1.47                  | 5.8                | 77                         |
| B 189       |                      |            |            |             |             | 77.6              | 19.0        | 3.2        | 0.5        | 164.0        | 1.47                  | 6.3                | 81                         |
| B 213       |                      |            |            |             |             | 69.3              | 25.9        | 4.4        | 0.4        | 171.0        |                       | 5.0                | 109                        |
| <b>N</b>    | <b>5</b>             | <b>4</b>   | <b>5</b>   | <b>5</b>    | <b>5</b>    | <b>9</b>          | <b>9</b>    | <b>9</b>   | <b>9</b>   | <b>10</b>    | <b>8</b>              | <b>9</b>           | <b>10</b>                  |
| <b>Mean</b> | <b>1.2</b>           | <b>2.0</b> | <b>5.2</b> | <b>84.2</b> | <b>7.8</b>  | <b>73.2</b>       | <b>21.5</b> | <b>4.9</b> | <b>0.5</b> | <b>187.3</b> | <b>1.48</b>           | <b>5.8</b>         | <b>87.0</b>                |
| <b>Min</b>  | <b>0.0</b>           | <b>2.0</b> | <b>0.0</b> | <b>76.0</b> | <b>0.0</b>  | <b>69.3</b>       | <b>19.0</b> | <b>3.2</b> | <b>0.4</b> | <b>164.0</b> | <b>1.47</b>           | <b>4.7</b>         | <b>62.6</b>                |
| <b>Max</b>  | <b>3.0</b>           | <b>2.0</b> | <b>9.0</b> | <b>91.0</b> | <b>21.0</b> | <b>77.6</b>       | <b>25.9</b> | <b>6.3</b> | <b>0.7</b> | <b>219.0</b> | <b>1.51</b>           | <b>6.3</b>         | <b>109.0</b>               |
| <b>Std</b>  | <b>1.3</b>           | <b>0.0</b> | <b>3.7</b> | <b>7.1</b>  | <b>9.3</b>  | <b>2.5</b>        | <b>2.2</b>  | <b>1.1</b> | <b>0.1</b> | <b>15.2</b>  | <b>0.02</b>           | <b>0.6</b>         | <b>12.1</b>                |

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