

## Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

|   |                      |   |                    |                              |  |
|---|----------------------|---|--------------------|------------------------------|--|
| Ship's Name<br><i>Blythwood S.B. Co</i><br><i>Mar No 80</i>   | Official Number<br>✓ | Nationality and Port of Registry<br><i>BRITISH</i><br><i>LONDON</i> | Gross Tonnage<br>✓ | Date of Build<br><i>1944</i> | Port of Survey<br><i>GLASGOW</i>   |
| Moulded Dimensions: Length <i>460'-9"</i> Breadth <i>59'-0"</i> Depth <i>34'-10"</i><br>To centre of rudder stock |                      |   |                    |                              | Date of Survey<br><i>8th APRIL 1943</i>  |
| Moulded displacement at moulded draught = 85 per cent. of moulded depth ✓ tons                                    |                      |   |                    |                              | Surveyor's Signature<br><i>K. Thomson</i>  |
| Coefficient of fineness for use with Tables <i>.790 (given by builder)</i>  |                      |   |                    |                              | Particulars of Classification<br><i>+ 100 A1</i><br><i>"CARRYING PETROLEUM IN BULK"</i><br><i>(CONTEMPLATED)</i> |

|   |  |   |
|---|--|---|
| Depth for Freeboard (D).  | Depth correction.  | Round of Beam correction.   |
| Moulded depth ... .. <i>34.83</i>                                 | (a) Where D is greater than Table depth<br>(D - Table depth) R =<br><i>(34.90 - 30.72) 3 = +12.54"</i> | Moulded Breadth (B) <i>59'-0"</i>   |
| Stringer plate ... <i>84</i> ... .. <i>.07</i>                    | <i>4.18</i>  | Standard Round of Beam = $\frac{B \times 12}{50}$ = <i>14.16</i>  |
| Sheathing on exposed deck<br>$T \left( \frac{L-S}{L} \right) =$ ✓ | (b) Where D is less than Table depth (if allowed)<br>(Table depth - D) R = ✓                           | Ship's Round of Beam = <i>14 3/4</i> ✓  |
| Depth for Freeboard (D) = <i>34.90</i>                            | If restricted by superstructures ✓   | Difference <i>.59</i>   |
|   |  | Restricted to   |
|   |  | Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right)$ = $\frac{.59}{4} \times .5814 = -.09"$ |

## DEDUCTION FOR SUPERSTRUCTURES.

|                                | Mean Covered Length (S) | Equivalent Enclosed Length (S <sub>1</sub> ) | Height       | Height Correction | Effective Length (E) |
|--------------------------------|-------------------------|--|--------------|-------------------|----------------------|
| Poop enclosed <i>Equi...</i>   | <i>96.50</i>            | <i>96.50</i>                                 | <i>7'-6"</i> | ✓                 | <i>96.50</i>         |
| „ overhang ...                 |                         |  |              |                   |                      |
| R.Q.D. enclosed                |                         |  |              |                   |                      |
| „ overhang                     |                         |  |              |                   |                      |
| Bridge enclosed <i>Equi...</i> | <i>50.83</i>            | <i>50.83</i>                                 | <i>7'-6"</i> | ✓                 | <i>50.83</i>         |
| „ overhang aft                 |                         |  |              |                   |                      |
| „ overhang forward             |                         |  |              |                   |                      |
| F'cle enclosed ...             | <i>45.50</i>            | <i>45.50</i>                                 | <i>7'-6"</i> | ✓                 | <i>45.50</i>         |
| „ overhang ...                 |                         |  |              |                   |                      |
| Trunk aft ...                  |                         |  |              |                   |                      |
| „ forward ...                  |                         |  |              |                   |                      |
| Tonnage opening aft            |                         |  |              |                   |                      |
| „ „ forward                    |                         |  |              |                   |                      |
| Total ...                      | <i>192.83</i>           | <i>192.83</i>                                |              |                   | <i>192.83</i>        |

|   |              |
|---|--------------|
| Standard Height of Superstructure                   | <i>7.5</i>   |
| „ „ R.Q.D.  | ✓            |
| Deduction for complete superstructure               | <i>42.00</i> |
| Percentage covered $\frac{S}{L} =$                  | <i>41.86</i> |
| „ „ $\frac{S_1}{L} =$                               |              |
| „ „ $\frac{E}{L} =$                                 |              |
| Percentage from Table, Line A. <i>Tanker</i>        | <i>32.86</i> |
| (corrected for absence of forecastle (if required)) | ✓            |
| Percentage from Table, Line B.                      | ✓            |
| (corrected for absence of forecastle (if required)) | ✓            |
| Interpolation for bridge less than 2L (if required) | ✓            |
| Deduction = $42 \times .3286 = -13.80"$             | ✓            |

## SHEER CORRECTION.

| Station             | Standard Ordinate | S | M | Product       | Actual Ordinate | Effective Ordinate | S | M | Product       |
|---------------------|-------------------|---|---|---------------|-----------------|--------------------|---|---|---------------|
| A.P. ...            | <i>56.07</i>      | 1 |   | <i>56.07</i>  | <i>46.00</i>    | <i>46.00</i>       | 1 |   | <i>46.00</i>  |
| 1/2 L from A.P. ... | <i>24.95</i>      | 4 |   | <i>99.80</i>  | <i>7.75</i>     | <i>7.75</i>        | 4 |   | <i>31.00</i>  |
| 3/4 L „ ...         | <i>6.17</i>       | 2 |   | <i>12.34</i>  | -               | -                  | 2 |   | -             |
| Amidships ...       | -                 | 4 |   | -             | -               | -                  | 4 |   | -             |
| 3/4 L from F.P. ... | <i>12.33</i>      | 2 |   | <i>24.66</i>  | -               | -                  | 2 |   | -             |
| 1/2 L „ ...         | <i>49.90</i>      | 4 |   | <i>199.60</i> | <i>30.50</i>    | <i>30.50</i>       | 4 |   | <i>122.00</i> |
| F.P. ...            | <i>112.14</i>     | 1 |   | <i>112.14</i> | <i>102.00</i>   | <i>102.00</i>      | 1 |   | <i>102.00</i> |
| Total ...           |                   |   |   | <i>504.61</i> |                 |                    |   |   | <i>301.00</i> |

Mean actual sheer aft =  
Mean standard sheer aft = } *Deficient*

Mean actual sheer forward =  
Mean standard sheer forward = }

Length of enclosed superstructure forward of amidships =  
L

„ „ aft of „ = } *Deficient sheer*

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{203.61}{18} (.75 - .2093) = +6.12"$   
If limited on account of midship superstructure. ✓

If limited to maximum allowance of 1 1/2 ins. per 100 ft. ✓

|   |  |  |
|---|--|--|
| Deduction for Tropical Freeboard.   | Deduction for Fresh Water.                           | TABULAR FREEBOARD corrected for Fresh Deck (if required)         |
| Addition for Winter and Winter North Atlantic Freeboard.  | Displacement in salt water at summer load water line | Correction for coefficient $\frac{.790 + .68}{1.36} = 1.47/1.36$ |
| Depth to Freeboard Deck = <i>34.90'</i>   | Δ =  | Depth Correction ... .. <i>12.54'</i>                            |
| Summer freeboard = <i>7.42'</i>   | Tons per inch immersion at summer load water line    | Deduction for superstructures ... .. <i>- 13.80'</i>             |
| Moulded draught (d) = <i>27.48'</i>   | T =  | Sheer correction ... .. <i>6.12'</i>                             |
| Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <i>6.87 = 6 3/4</i> | Deduction = $\frac{\Delta}{40 T}$ inches             | Round of Beam correction ... .. <i>.09'</i>                      |
| Addition for Winter North Atlantic Freeboard (if required) = $6.87 \times 4.61 = 11.48 = 11 1/2$                | <i>d/4 = 6 3/4</i>                                   | Correction for Thickness of Deck amidships ... .. <i>-</i>       |
|   |  | Other corrections, scantlings, etc. ... .. <i>-</i>              |
|   |  | <i>18.66 13.89 + 4.77</i>  |
|   |  | Summer Freeboard = <i>88.96'</i>                                 |

## SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:

|  |       |                |
|--|-------|----------------|
| Tropical Fresh Water Line above Centre of Disc | ...   | <i>13 1/2"</i> |
| Fresh Water Line                               | ...   | <i>6 3/4"</i>  |
| Tropical Line                                  | ...   | <i>6 3/4"</i>  |
| Winter Line                                    | below | <i>6 3/4"</i>  |
| Winter North Atlantic Line                     | ...   | <i>11 1/2"</i> |

|                                |     |                   |
|--------------------------------|-----|-------------------|
| Tropical Fresh Water Freeboard | ... | <i>6'-3 1/2"</i>  |
| Fresh Water                    | ... | <i>6'-10 1/4"</i> |
| Tropical                       | ... | <i>6'-10 1/4"</i> |
| Winter                         | ... | <i>7'-11 3/4"</i> |
| Winter North Atlantic          | ... | <i>8'-4 1/2"</i>  |



A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.

Plans of Midship Section and profile showing sheer line, length of sections  $\approx$  (2 plans) are forwarded for reference.

Openings in poop front bulkhead closed by hinged steel w.t. doors. ✓

Openings in bridge after bulkhead closed by weather bands in channels. ✓

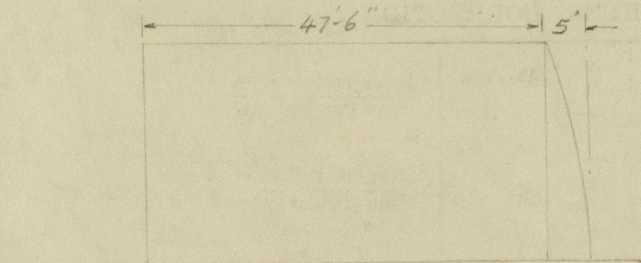
Openings in bridge front bulkhead closed by hinged steel w.t. doors. ✓

Openings in forecabin end bulkhead closed by weather bands in channels. ✓

Please forward copy of computations for the use of this office. ✓

The Builders would esteem the favour of being informed, by wire, the summer freeboard that could be assigned in this case.

The Builders anticipate that with the arrangements shown a moulded draft of about 27'-5" will be obtained.



Bridge:

$$\begin{array}{r} \frac{2}{3} \times 5 = 3.33' \\ 47.50' \\ \hline 50.83' \end{array}$$

$$\begin{array}{r} \text{Poop: } 92' - 5'' \\ \quad \quad 9'' \\ \hline 93' - 2'' \\ \frac{2}{3} \times 5 = 3' - 4'' \\ \hline 96' - 6'' \end{array}$$

Trade of ship International

Names of sister ships none

Builder's name and yard number Algonquin S. C. Co. Ltd No 80

Owners Ministry of War Transport.

Fee £ ✓



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Foundation