

Lloyd's Register of Shipping.

TIMBER SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having a Forecastle, a Bridge and a Poop.

(Type of Superstructures.)

Ship's Name <u>S.S. Bearwood</u> <u>now "Lakerberg"</u>	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
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Moulded Dimensions: Length 382.0 Breadth 51.75 Depth 29.0
Moulded displacement at moulded draught = 85 per cent. of moulded depth
Coefficient of fineness for use with Tables .761

Port of Survey
Date of Survey 17th November 1931
Name of Surveyor
Particulars of Classification + 100 A.1

<p>Depth for Freeboard (D)</p> <p>Moulded depth <u>29.0</u></p> <p>Stringer plate <u>.03</u></p> <p>Sheathing on exposed deck</p> <p>$T \left(\frac{L-S}{L} \right) =$</p> <p>Depth for Freeboard (D) = <u>29.03</u></p>	<p>Depth correction</p> <p>(a) Where D is greater than Table depth (D - Table depth) R = <u>+ 10.46</u></p> <p>(b) Where D is less than Table depth (if allowed) (Table depth - D) R =</p> <p>If restricted by superstructures</p>	<p>Round of Beam correction</p> <p>Moulded Breadth (B)</p> <p>Standard Round of Beam = $\frac{B \times 12}{50} =$</p> <p>Ship's Round of Beam =</p> <p>Difference</p> <p>Restricted to</p> <p>Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) =$ <u>- .04</u></p>
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	<u>33.5</u>	<u>33.5</u>	<u>8.0</u>		<u>33.5</u>
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed	<u>117.20</u>	<u>117.20</u>	<u>8.0</u>		<u>117.2</u>
" overhang aft	<u>1.97</u>	<u>1.48</u>			<u>1.48</u>
" overhang forward					
Fore enclosed	<u>29.92</u>	<u>29.92</u>	<u>8.0</u>		<u>29.92</u>
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	<u>182.59</u>	<u>182.10</u>			<u>182.10</u>

Standard Height of Superstructure <u>4.32'</u>	
" " R.Q.D.	
Deduction for complete superstructure <u>40.80</u>	
Percentage covered $\frac{S}{L} =$ <u>47.8</u>	
" " $\frac{S_1}{L} =$ <u>47.67</u>	
" " $\frac{E}{L} =$ <u>47.67</u>	
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	
Percentage from Table, Line B. Timber <u>67.79</u> (corrected for absence of forecastle (if required))	
Interpolation for bridge less than 2L (if required)	
Deduction = <u>40.80</u> × <u>.6779</u> = <u>- 27.66</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>48.2</u>	1			<u>55.0</u>		1		
$\frac{1}{2}$ L from A.P.	<u>21.45</u>	4			<u>25.5</u>		4		
$\frac{2}{3}$ L "	<u>5.30</u>	2			<u>7.0</u>		2		
Amidships	<u>0</u>	4			<u>0</u>		4		
$\frac{2}{3}$ L from F.P.	<u>10.60</u>	2			<u>12.5</u>		2		
$\frac{1}{2}$ L "	<u>42.89</u>	4			<u>48.5</u>		4		
F.P.	<u>96.40</u>	1			<u>111.0</u>		1		
Total									

Mean actual sheer aft = Excess
Mean standard sheer aft = Excess

Mean actual sheer forward = Excess
Mean standard sheer forward = Excess

Length of enclosed superstructure forward of amidships =
" " aft of " =

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) =$ - 1.91 - 1.67

If limited on account of midship superstructure. ✓

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. ✓

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

<p>Depth to Freeboard Deck = <u>29.03</u></p> <p>Summer freeboard = <u>4.22</u></p> <p>Moulded draught (d) = <u>24.81</u></p>	<p>Displacement in salt water at summer load water line</p> <p>$\Delta =$ <u>70835</u></p> <p>Tons per inch immersion at summer load water line</p> <p>$T =$ <u>39.52</u></p>
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Deduction for Tropical freeboard and addition for

<p>Winter freeboard = $\frac{d}{4}$ inches = <u>6.20</u></p> <p>Addition for Winter North Atlantic Freeboard (if required) = <u>8.28</u></p>	<p>Deduction = $\frac{\Delta}{40T}$ inches</p> <p>= <u>6.85</u></p> <p>= <u>6.4</u></p>
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Deduction for Fresh Water.

<p>Displacement in salt water at summer load water line</p> <p>$\Delta =$ <u>70835</u></p> <p>Tons per inch immersion at summer load water line</p> <p>$T =$ <u>39.52</u></p>	<p>Deduction = $\frac{\Delta}{40T}$ inches</p> <p>= <u>6.85</u></p> <p>= <u>6.4</u></p>
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TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

<p>Depth Correction <u>10.46</u></p> <p>Deduction for superstructures <u>- 27.66</u></p> <p>Sheer correction <u>+ 1.67</u></p> <p>Round of Beam correction <u>- 1.04</u></p> <p>Correction for Thickness of Deck amidships</p> <p>Other corrections, scantlings, etc.</p>	<p>Summer Freeboard = <u>50.78</u></p> <p><u>51.02</u></p>
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Timber SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:			
<p>Timber Tropical Fresh Water Line above Centre of Disc</p> <p>" Fresh Water Line</p> <p>" Tropical Line</p> <p>" Winter Line</p> <p>" Winter North Atlantic Line</p> <p>Summer</p>	<p>below above</p> <p><u>26.5</u> <u>26.5</u></p> <p><u>508</u> <u>20</u> <u>20</u></p> <p><u>496</u> <u>19.5</u> <u>20</u></p> <p><u>127</u> <u>5</u> <u>5.4</u></p> <p><u>165</u> <u>6.5</u> <u>6.5</u></p> <p><u>337</u> <u>13.4</u> <u>13.4</u></p>	<p>Timber Tropical Fresh Water Freeboard</p> <p>" Fresh Water</p> <p>" Tropical</p> <p>" Winter</p> <p>" Winter North Atlantic</p>	<p><u>9.65</u> <u>2.7</u> <u>4-3</u></p> <p><u>11.24</u> <u>3.8</u> <u>3-2</u></p> <p><u>11.36</u> <u>3.8</u> <u>3-8</u></p> <p><u>15.05</u> <u>4.1</u> <u>4-11</u></p> <p><u>17.97</u> <u>5.0</u> <u>5-10 3/4</u></p>