

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR ~~STEAMER~~, SAILING SHIP, ~~TANKER~~)

Ship's Name <i>Westward</i>	Official Number <i>148556</i>	Nationality and Port of Registry <i>British London.</i>	Gross Tonnage <i>1001</i>	Date of Build <i>1920</i>	Port of Survey <i>London.</i>
Moulded Dimensions: Length <i>242.2</i> Breadth <i>40.00</i> Depth <i>23.67</i>					Date of Survey <i>13/12/37 - 13/1/38.</i>
Moulded displacement at moulded draught = 85 per cent. of moulded depth					Surveyor's Signature <i>Arthur W. Smith.</i>
Percentage of fineness for use with Tables <i>.70 estimated.</i>					Particulars of Classification

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Table depth <i>23.29</i>	(a) Where D is greater than Table depth (D - Table depth) R = <i>(23.37 - 20.18) 1.969 = + 6.28"</i>	Moulded Breadth (B) = <i>40.00'</i>
Plate <i>.04</i>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <i>3.19</i>	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{40 \times 12}{50} = 9.60"$
Exposed deck $\frac{(D-S)}{L} = .25 \times \frac{34.2}{242.2} = .04$	If restricted by superstructures <input checked="" type="checkbox"/>	Ship's Round of Beam = <i>10.00"</i>
Depth for Freeboard (D) = <i>23.37</i>		Difference <i>excess .40"</i>
		Restricted to
		Correction = $\frac{\text{Diff.}}{4} \times (1 - \frac{S_1}{L}) = \frac{.40}{4} \times .1412 = -.01"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
enclosed ...	<i>142.00</i>	<i>142.00</i>	<i>4.75 to 4.0</i>	<input checked="" type="checkbox"/>	<i>142.00</i>
overhang ...					
enclosed ...					
overhang ...					
age enclosed ...					
overhang aft ...					
overhang forward					
enclosed ...	<i>36.00</i>	<i>36.00</i>	<i>4.0</i>	<input checked="" type="checkbox"/>	<i>36.00</i>
overhang ...					
ank aft ...					
forward ...					
age opening aft ...					
forward					
Total ...	<i>208.00</i>	<i>208.00</i>			<i>208.00</i>

Standard Height of Superstructure *6.00'*

" " R.Q.D. ☒

Deduction for complete superstructure *19.22"*

Percentage covered $\frac{S}{L} = \frac{85.88}{100} = 85.88$

" " $\frac{S_1}{L} = 85.88$

" " $\frac{E}{L} = 85.88$

Percentage from Table, Line A. *85.88*

(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 = *19.22* x *.8588* = *16.51"*

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
...	<i>34.22</i>	<i>1</i>	<i>34.22</i>	<i>29.50</i>	<i>29.50</i>	<i>1</i>	<i>29.50</i>
...	<i>15.23</i>	<i>4</i>	<i>60.92</i>	<i>8.00</i>	<i>8.00</i>	<i>4</i>	<i>32.00</i>
...	<i>3.46</i>	<i>2</i>	<i>7.52</i>	<i>- .50</i>	<i>- .50</i>	<i>2</i>	<i>- 1.00</i>
...	<i>-</i>	<i>4</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>4</i>	<i>-</i>
...	<i>7.53</i>	<i>2</i>	<i>15.06</i>	<i>11.50</i>	<i>7.69</i>	<i>2</i>	<i>15.38</i>
...	<i>30.46</i>	<i>4</i>	<i>121.84</i>	<i>31.75</i>	<i>31.11</i>	<i>4</i>	<i>124.44</i>
...	<i>68.44</i>	<i>1</i>	<i>68.44</i>	<i>66.50</i>	<i>69.90</i>	<i>1</i>	<i>69.90</i>
			<i>308.00</i>				<i>270.22</i>

Mean actual sheer aft = *Deficient 57.03% of Standard.*Mean actual sheer forward = *Excess.*Length of enclosed superstructure forward of amidships = *Deficient sheer.*

STANDARD.		SHEER	AFT.	STANDARD.		SHEER	FORWARD
ACTUAL.				ACTUAL.			
34.22 - 1 -	34.22	29.50 - 1 -	29.50	7.53 - 3 -	22.59	11.50 - 3 -	34.50
15.23 - 3 -	45.69	8.00 - 3 -	24.00	30.46 - 3 -	91.38	31.75 - 3 -	95.25
3.46 - 3 -	11.28	- .50 - 3 -	- 1.50	68.44 - 1 -	68.44	66.50 - 1 -	66.50
<u>91.19</u>		<u>52.00</u>		<u>182.41</u>		<u>146.25</u>	

$294) = +.64''$ $\frac{52.00}{91.19} = 57.03\%$

SEE OVER.

Difference between sums of products $\frac{18}{18} \left(\frac{75-S}{2L} \right) = \frac{34.48}{18} (.75 - .4294) = +.64"$ If limited to maximum allowance of 1 1/2 ins. per 100 ft. ☒

SEE OVER.

for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)	<i>46.04"</i>
for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{.40 + .62}{1.24} = \frac{1.32}{1.24}$	<i>49.04"</i>
Depth to Freeboard Deck = <i>23.41'</i>	$\Delta =$	Depth Correction <i>6.28</i>	
Summer freeboard = <i>6.46'</i>	Tons per inch immersion at summer load water line	Deduction for superstructures <i>16.51</i>	
Moulded draught (d) = <i>17.25'</i>	T =	Sheer correction <i>.67</i>	
Correction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <input checked="" type="checkbox"/>	Deduction = $\frac{\Delta}{40T}$ inches	Round of Beam correction <i>.01</i>	
Addition for Winter North Atlantic Freeboard (if required) =	$\frac{d}{4} = 4.31$	Correction for Thickness of Deck amidships <i>.48</i>	
TROPICAL AND WINTER	$= 4.74"$	Other corrections, scantlings, etc. AND TO CORRESPOND TO A SUBDIVISION MOULDED DRAUGHT OF 17'3"	
		<i>38.51</i>	
		<i>45.46</i>	
		Summer Freeboard = <i>47.50"</i>	

SUMMER FREEBOARDSamidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:

Tropical Fresh Water Line above Centre of Disc <input checked="" type="checkbox"/>	Tropical Fresh Water Freeboard <i>6' 5 1/2"</i>
Fresh Water Line " " " " " " <i>4 1/4"</i>	Fresh Water " " " " " " <i>6' 1 1/4"</i>
Tropical Line " " " " " " <input checked="" type="checkbox"/>	Tropical " " " " " " <input checked="" type="checkbox"/>
Winter Line below " " " " " " <input checked="" type="checkbox"/>	Winter " " " " " " <input checked="" type="checkbox"/>
Winter North Atlantic Line " " " " " " <i>NIL.</i>	Winter North Atlantic " " " " " " <i>6' 5 1/2"</i>

18 FEB 1938

Westward

OFF. N^o 148556.N^o 2934Westward

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.

Virtual depth for freeboard.

$$\begin{aligned}
 \frac{1}{2} \text{ breadth amidships} &= 20'0 \\
 \text{rise of floor in } 20'0 \text{ at } 1\frac{1}{2}' \text{ per foot} &= 15 \times 20 = 30'' \\
 \text{Actual rise of floor} &= \underline{39''} \\
 \text{Difference} &= 9'' \\
 \frac{1}{2} \text{ difference} &= 4.5'' = \underline{\underline{.38'}}
 \end{aligned}$$

$$\text{Actual depth} = 23.64'$$

$$\text{Virtual depth} = \underline{\underline{23.29'}}$$

allowed sheer forward

$$\begin{array}{r}
 196.25 \\
 182.41 \\
 \hline
 13.84
 \end{array}$$

$$182.41 + (13.84 \times \frac{7.03}{25.00}) = 186.30.$$

$$\begin{array}{rcl}
 7.53 \times \frac{186.30}{182.41} & = & 7.69 \\
 30.46 \times " & = & 31.11 \\
 68.44 \times " & = & 69.90.
 \end{array}$$

Trade of ship

International.

Names of sister ships

✓

Builder's name and yard number

Aht. Røaby. Havns Jernskibsværft.

Owners

H.K. Hales.

Fee £



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Foundation