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# LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

## SURVEYS FOR FREEBOARD

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER)

Received .....

Index No. ....

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Owners Cl. ....

Ship's Name <b>TEH HU.</b>	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build	Port of Survey <b>Glasgow 1932</b>
Moulded Dimensions: Length <b>250.12'</b> Breadth <b>35.0'</b> Depth <b>17.67'</b>					Date of Survey <b>Hong Kong 1952</b>
Freeboard Length <b>250.12'</b>					Surveyor's Signature <b>A.R. BAXTER</b> <b>J.A. ANDERSON</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth (excluding bossing)					Particulars of Classification <b>+100A1</b>
Coefficient of fineness for use with Tables <b>.68</b>					

DEPTH FOR FREEBOARD (D).	
Moulded depth	<b>17.67</b>
Stringer plate	<b>.03</b>
Wood Sheathing on exposed deck	
$T \left( \frac{L-S}{L} \right) =$	
Depth for Freeboard (D) =	<b>17.70</b>

DEPTH CORRECTION.	
(a) Where D is greater than Table depth (D - Table depth) R =	<b>(17.70 - 16.68) 1.924 = +1.96</b>
(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	
If restricted by superstructures	

ROUND OF BEAM CORRECTION.	
Moulded Breadth (B)	<b>35.00</b>
Standard Round of Beam = $\frac{B \times 12}{50}$	<b>8.40</b>
Ship's Round of Beam	<b>8</b>
Difference	<b>0.40</b>
Restricted to	
Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right)$	<b><math>\frac{.40}{4} \times 2482 = .02</math></b>

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Comp. Bridge Poop enclosed	<b>140.71</b>	<b>140.71</b>	<b>7.50</b>	-	<b>140.71</b>
" " overhang	<b>19.8</b>	<b>9.63</b>		-	<b>9.63</b>
R.Q.D. enclosed	<b>25</b>				
" " overhang					
Bridge enclosed					
" " overhang aft					
" " overhang forward	<b>32.17</b>				
F'cle enclosed	<b>25.0</b>	<b>32.17</b>	<b>7.50</b>	-	<b>32.17</b>
" " overhang	<b>18.3</b>	<b>5.54</b>		-	<b>5.54</b>
Trunk aft	<b>11.08</b>				
" " forward					
Tonnage opening aft					
" " forward					
Total	<b>203.21</b>	<b>188.05</b>			<b>188.05</b>

Standard Height of Superstructure	<b>6.00</b>
" " R.Q.D.	
Deduction for complete superstructure	<b>31.01</b>
Percentage covered $\frac{S}{L} =$	<b>81.24</b>
" " $\frac{S_1}{L} =$	<b>75.18</b>
" " $\frac{E}{L} =$	<b>28.69.37</b>
Percentage from Table, Line A. (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 = $31.01 \times .6937$	<b>= 21.51</b>

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<b>35.01</b>	1		<b>35.01</b>	<b>32.5</b>	<b>32.5</b>	1		<b>32.50</b>
$\frac{1}{2}L$ from A.P.	<b>15.58</b>	4		<b>62.32</b>	<b>13</b>	<b>13</b>	4		<b>52.00</b>
$\frac{3}{4}L$ "	<b>3.85</b>	2		<b>7.70</b>	<b>2.62</b>	<b>2.62</b>	2		<b>5.24</b>
Amidships	<b>0</b>	4		<b>0</b>	<b>0</b>	<b>0</b>	4		<b>0</b>
$\frac{3}{4}L$ from F.P.	<b>7.70</b>	2		<b>15.40</b>	<b>5.75</b>	<b>5.75</b>	2		<b>11.50</b>
$\frac{1}{2}L$ "	<b>31.16</b>	4		<b>124.64</b>	<b>24</b>	<b>24</b>	4		<b>96.00</b>
F.P.	<b>70.02</b>	1		<b>70.02</b>	<b>56.5</b>	<b>56.5</b>	1		<b>56.50</b>
Total				<b>315.09</b>					<b>253.74</b>

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{61.35}{18} (.75 - .4062) = +1.17$

If limited on account of midship superstructure. **.3438** 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.

Depth to Freeboard Deck	=	<b>17.70</b>
Summer freeboard	=	<b>1.33</b>
Moulded draught (d)	=	<b>16.35</b>
Keel allowance	=	
Extreme draught	=	
Deduction for Tropical freeboard and addition for	=	<b>2 1/4</b>
Winter freeboard = $\frac{d}{4}$ inches	=	<b>4 1/4</b>
Addition for Winter North Atlantic Freeboard (required)	=	<b>4 1/4</b>

## Deduction for Fresh Water.

Displacement in salt water at summer load water line	$\Delta =$	
Tons per inch immersion at summer load water line	T =	
Deduction = $\frac{\Delta}{40 T}$ inches	=	<b>3 3/4</b>

## TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

N.I.L.

	+	-
Depth Correction	<b>1.96</b>	
Deduction for superstructures		<b>21.51</b>
Sheer correction	<b>1.17</b>	
Round of Beam correction	<b>.02</b>	
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc.		
Summer Freeboard	<b>13.97</b>	

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

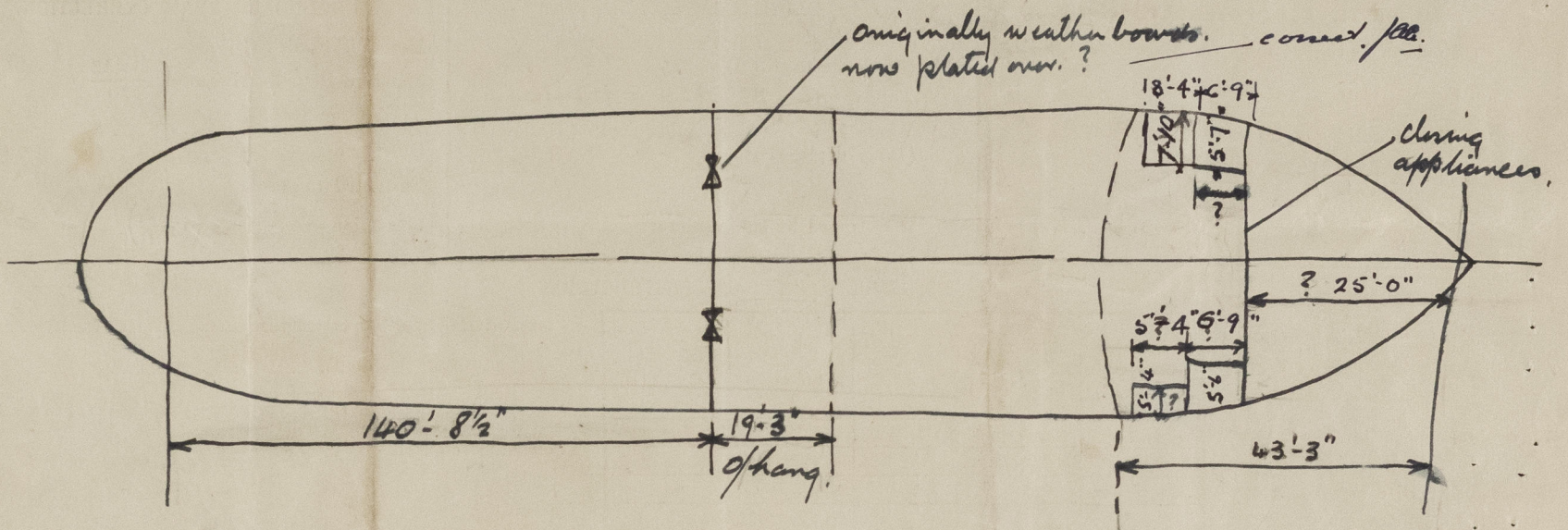
Tropical Fresh Water Line above Centre of Disc	<b>6 3/4</b>
Fresh Water Line	<b>3 3/4</b>
Tropical Line	<b>2 1/4</b>
Winter Line below	<b>4 1/4</b>
Winter North Atlantic Line	

Tropical Fresh Water Freeboard	<b>0' - 10 1/4"</b>
Fresh Water	<b>1' - 0 1/2"</b>
Tropical	<b>1' - 2 1/2"</b>
Winter	<b>1' - 6 1/2"</b>
Winter North Atlantic	<b>1' - 8 1/2"</b>

Existing 1906  
freeboard  
rearranged



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.



### Forecastle.

$$\begin{aligned} \text{length at centre} &= 25.00 \\ + \frac{6.75 \times 5.58 + 8.33 \times 7.83}{23.5} &= 7.17 \\ \hline &= 32.17 \end{aligned}$$

$$O/H = 43.25 - 32.17 = 11.08$$

37.62  
65.25  
37.14  
28.50  
168.51

Trade of ship .....

Names of sister ships .....

Builder's name and yard number .....

Owners .....

Fee £ : : .....

List of plans forwarded for reference. (See "Instructions to Surveyors, Part 4, 1950," paragraph 11.)



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