

Preliminary Assignment.  
Particulars supplied by Builders.  
**Lloyd's Register of Shipping.**  
**SURVEYS FOR FREEBOARD.**

Index. No. **34558**  
(For London & Free only.)

GLASGOW REPORT No. **55081**

Computation of Freeboard for Steamer, ~~Sailing Ship~~, Tanker  
having Roop Bridge & Forecastle  
(Type of Superstructures.)  
Port of Survey Glasgow  
Date of Survey 24<sup>th</sup> October 1934  
Name of Surveyor A.W. Paterson  
Particulars of Classification +100 A1  
Contemplated

Ship's Name <u>No. 953 M</u> <u>W. Henderson &amp; Co. Ltd.</u>	Nationality and Port of Registry <u>Brit</u>	Official Number <u>5579</u>	Gross Tonnage <u>approx. 6000</u>	Date of Build <u>1935</u>
Moulded Dimensions: Length <u>435'</u> Breadth <u>56' 3 3/4"</u> Depth <u>32' 0"</u>		Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>14220</u> tons		
Coefficient of fineness for use with Tables <u>.754</u>				

<b>Depth for Freeboard (D)</b> Moulded depth ... .. <u>32.0</u> Stringer plate ( <u>4.0</u> ) ... .. <u>.04</u> Sheathing on exposed deck T $\frac{(L-S)}{L}$ = <u>no sheathing</u> Depth for Freeboard (D) = <u>32.04</u>	<b>Depth correction</b> (a) Where D is greater than Table depth (D-Table depth) R = <u>(32.04 - 29.00) x 3 = + 9.12</u> (b) Where D is less than Table depth (if allowed) (Table depth-D) R = If restricted by superstructures -	<b>Round of Beam correction</b> Moulded Breadth (B) <u>55.79</u> Standard Round of Beam = $\frac{B \times 12}{50}$ = <u>13.44</u> Ship's Round of Beam = <u>13.5</u> Difference <u>.02</u> Restricted to <u>✓</u> Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L})$ = $\frac{.02}{4} \times .4841$ = <u>.0024</u>
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
*Roop enclosed <u>beginning</u>	<u>43.24</u>	<u>43.24</u>	<u>7'-11 1/2"</u>	-	<u>43.24</u>	Standard Height of Superstructure <u>7.5'</u>
" overhang <u>4.50</u>	<u>1.76</u>	<u>.88</u>			<u>.88</u>	" " R.Q.D. -
R.Q.D. enclosed						Deduction for complete superstructure <u>42.1</u>
" overhang						Percentage covered $\frac{S}{L}$ = <u>52.76</u>
Bridge enclosed <u>beginning</u>	<u>127.93</u>	<u>127.93</u>		-	<u>127.93</u>	" " $\frac{S_1}{L}$ = <u>51.59</u>
" overhang aft <u>2.75</u>	<u>13.82</u>	<u>10.36</u>	<u>7'-11 1/2"</u>		<u>10.36</u>	" " $\frac{E}{L}$ = <u>51.59</u>
" overhang forward	<u>1.50</u>	<u>.75</u>			<u>.75</u>	Percentage from Table, Line A. <u>✓</u>
*F'cle enclosed	<u>41.25</u>	<u>41.25</u>	<u>7'-11 1/2"</u>	-	<u>41.25</u>	(corrected for absence of forecastle (if required))
" overhang						Percentage from Table, Line B. <u>37.59</u>
Trunk aft						(corrected for absence of forecastle (if required))
" forward						Interpolation for bridge less than 2L (if required)
Tonnage opening aft						Deduction = <u>42 x .3759 = - 15.79</u>
" " forward						
Total	<u>229.50</u>	<u>224.41</u>			<u>224.41</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	<u>53.50</u>	1		<u>53.50</u>	<u>60.0</u>	<u>60.0</u>	1		<u>60.0</u>	Mean actual sheer aft = <u>Exam</u>
1/4 L from A.P. ...	<u>23.805</u>	4		<u>95.22</u>	<u>26.7</u>	<u>26.7</u>	4		<u>106.8</u>	Mean actual sheer forward = <u>Exam</u>
3/8 L " ...	<u>5.885</u>	2		<u>11.77</u>	<u>6.6</u>	<u>6.6</u>	2		<u>13.2</u>	Mean standard sheer aft
Amidships ...	-	4		-	-	-	4		-	Mean standard sheer forward
3/8 L from F.P. ...	<u>11.77</u>	2		<u>23.54</u>	<u>13.2</u>	<u>13.2</u>	2		<u>26.4</u>	Length of enclosed superstructure forward of amidships = <u>&gt; .1 L</u>
1/4 L " ...	<u>47.61</u>	4		<u>190.44</u>	<u>53.4</u>	<u>53.4</u>	4		<u>213.6</u>	" " aft of " = <u>&gt; .1 L</u>
F.P. ...	<u>107.00</u>	1		<u>107.00</u>	<u>120.0</u>	<u>120.0</u>	1		<u>120.0</u>	
Total	<u>481.5</u>			<u>481.47</u>					<u>540.0</u>	

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{58.53}{18} \left( .75 - \frac{.2638}{2} \right) = -1.58$

If limited on account of midship superstructure.

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

Deduction for Tropical Freeboard.  
Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 32.04  
Summer freeboard = 6.56  
Moulded draught (d) = 25.48

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = 6.37 = 6 1/4  
Addition for Winter North Atlantic Freeboard (if required) =

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  
1/4" = 6 1/4"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$\frac{754 + .68}{1.36} = \frac{1.434}{1.36}$

Depth Correction ... .. 9.12  
Deduction for superstructures ... .. 15.79  
Sheer correction ... .. 1.58  
Round of Beam correction ... ..  
Correction for Thickness of Deck amidships ... ..  
Other corrections, scantlings, etc. ... ..

+	-
<u>9.12</u>	
	<u>15.79</u>
	<u>1.58</u>
<u>9.12</u>	<u>17.37</u>
	<u>- 8.25</u>
Summer Freeboard = <u>78.69</u>	

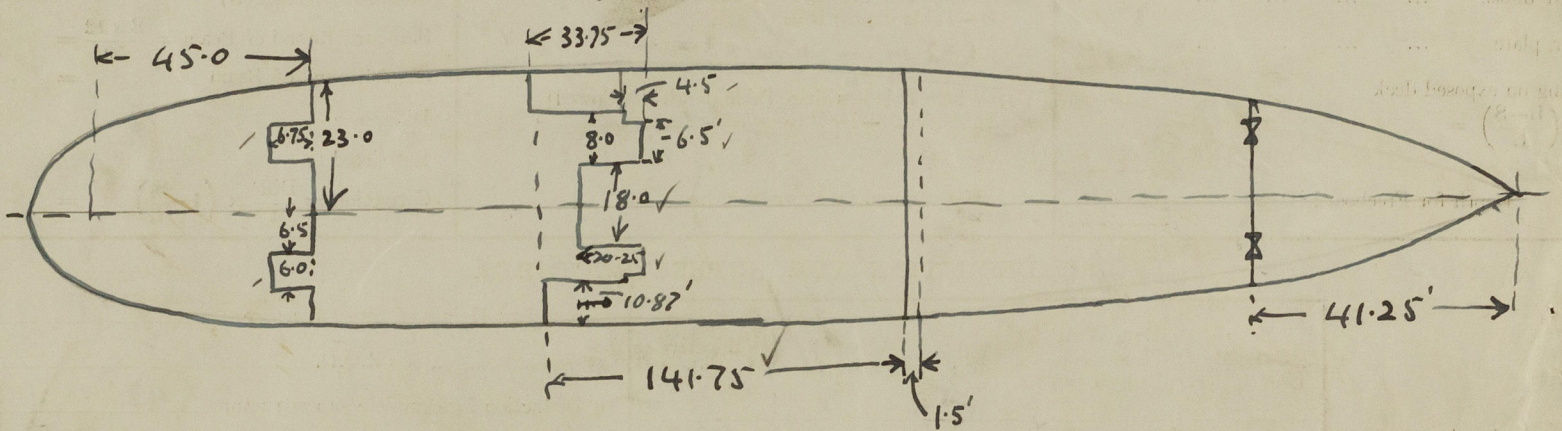
SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~, Steel, Deck:—

Tropical Fresh Water Line above Centre of Disc ... .. 12 1/2"  
Fresh Water Line " " ... .. 6 1/4"  
Tropical Line " " ... .. 6 1/4"  
Winter Line below " " ... .. 6 1/4"  
Winter North Atlantic Line " " ... ..

Tropical Fresh Water Freeboard ... .. 6'-6 3/4"  
Fresh Water " " ... .. 5'-2 1/4"  
Tropical " " ... .. 6'-0 1/2"  
Winter " " ... .. 6'-0 1/2"  
Winter North Atlantic " " ... .. 7'-1"

NOTE:— Approved Midship Section & profile plans forwarded for reference. Request for also forwarded herewith.





Poop

$$\begin{array}{r}
 45.0 \\
 - 6.75 \\
 \hline
 38.25 \\
 \end{array}$$

House:

$$\begin{array}{r}
 6.75 \times 13 = 1.91 \\
 \hline
 46 \\
 6.75 \times 21 = 3.08 \\
 \hline
 46 \\
 43.24 \\
 \hline
 1.76 \checkmark
 \end{array}$$

Overhang

Bridge

$$\begin{array}{r}
 141.75 \\
 - 33.75 \\
 \hline
 108.00 \\
 \end{array}$$

House:

$$\begin{array}{r}
 20.25 \times 18 = 55.79 \\
 \hline
 2 \times 29.25 \times 10.82 = 55.79 \\
 \hline
 2 \times 4.5 \times 12.37 = 55.79 \\
 \hline
 127.93
 \end{array}$$

$$\begin{array}{r}
 2.00 \\
 \hline
 127.93 \\
 + 141.75 \\
 \hline
 27.93
 \end{array}$$

equivalent enclosed.  
overhang aft.



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