

# Preliminary Computation.

[Excluding bridge (class 1 closing appliances on poop bulkhead) openings]

## Lloyd's Register of Shipping.

 Index. No. \_\_\_\_\_  
 (For London Office only).

### SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>Messs Swan Hunter's</b> <b>Yard No 1708</b> <b>[For the African Eastern Co]</b>	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build	Port of Survey
Moulded Dimensions: Length <b>410.67'</b> Breadth <b>56.5'</b> Depth <b>29.5'</b> <b>60 miles of rudder stock</b>					Date of Survey <b>18.3.41</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>12330</b> tons					Surveyor's Signature
Coefficient of fineness for use with Tables <b>.742</b>					Particulars of Classification <b>+ 100 A.1</b> <b>carrying passengers in bulk</b> <b>(contemplated)</b>

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... <b>29.5</b> Stringer plate ... <b>.65"</b> Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	(a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(29.55 - 27.38) \times 3 = 6.51"$ (b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Moulded Breadth (B) <b>56.5'</b> Standard Round of Beam = $\frac{B \times 12}{50} = 13.56"$ Ship's Round of Beam = <b>13.50"</b> Difference <b>Deficient</b> <b>.06"</b> Restricted to Correction = $\frac{\text{Diff}^a}{4} \times \left( 1 - \frac{S_1}{L} \right) = .06 \times 2401 = \text{Nil.}$
Depth for Freeboard (D) = <b>29.55</b>	If restricted by superstructures	

#### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<b>151.62</b>	<b>151.62</b>	<b>7.5'</b>	✓	<b>151.62</b>
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
Fore enclosed ...	<b>48.79</b>	<b>48.79</b>	<b>7.5'</b>	✓	<b>48.79</b>
" overhang ...					
Trunk aft <b>210.15 x 30</b>		<b>111.64</b>	<b>7.5'</b>	✓	<b>111.64</b>
" forward ... <b>56.5</b>					
Tonnage opening aft ...					
" forward ...					
Total ...	<b>200.41</b>	<b>312.05</b>			<b>312.05</b>

Standard Height of Superstructure **7.5**  
 " " R.Q.D. ✓  
 Deduction for complete superstructure **42.00"**  
 Percentage covered  $\frac{S}{L} = 48.80$   
 " "  $\frac{S_1}{L} = 75.19$   
 " "  $\frac{E}{L} = 75.19$   
 Percentage from Table, Line **Tanker** **70.37**  
 (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 x .7037 = -29.55**

#### SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<b>51.07</b>	1		<b>51.07</b>	<b>51.00</b>	<b>51.00</b>	1		<b>51.00</b>
$\frac{1}{8}L$ from A.P. ...	<b>22.725</b>	4		<b>90.90</b>	<b>22.50</b>	<b>22.50</b>	4		<b>90.00</b>
$\frac{2}{8}L$ " ...	<b>5.62</b>	2		<b>11.24</b>	<b>5.50</b>	<b>5.50</b>	2		<b>11.00</b>
Amidships ...	-	4		-	-	-	4		-
$\frac{3}{8}L$ from F.P. ...	<b>11.235</b>	2		<b>22.47</b>	<b>13.00</b>	<b>13.00</b>	2		<b>26.00</b>
$\frac{4}{8}L$ " ...	<b>45.45</b>	4		<b>181.80</b>	<b>45.00</b>	<b>45.00</b>	4		<b>180.00</b>
F.P. ...	<b>102.13</b>	1		<b>102.13</b>	<b>102.00</b>	<b>102.00</b>	1		<b>102.00</b>
Total ...				<b>459.61</b>					<b>460.00</b>

Mean actual sheer aft = **Deficient but > .75**  
 Mean standard sheer aft  
 Mean actual sheer forward = **Excess**  
 Mean standard sheer forward  
 Length of enclosed superstructure forward of amidships =  
 " " aft of " = **Tanker.**

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{.75 - S}{2L} \right) = \frac{39}{18} \left( \frac{.75 - .2440}{.5060} \right) = -.01"$   
 If limited on account of midship superstructure. ✓

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = <b>29.55</b> Summer freeboard = <b>3.75</b> Moulded draught (d) = <b>25.80</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 = $\frac{\Delta}{40T}$ inches	TABULAR FREEBOARD (corrected for Fresh Deck (if required)) Correction for coefficient <b>.742 + .68 = 1.422 / 1.36</b> Depth Correction ... <b>6.51</b> Deduction for superstructures ... <b>29.55</b> Sheer correction ... <b>.01</b> Round of Beam correction ... Correction for Thickness of Deck amidships ... Other corrections, scantlings, etc. ... Summer Freeboard = <b>44.99</b>	<b>65.07</b> <b>68.04</b> <b>56.8</b> <b>20-3-41</b>
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#### SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:

Tropical Fresh Water Line above Centre of Disc ...	Tropical Fresh Water Freeboard ...
Fresh Water Line " " ...	Fresh Water " " ...
Tropical Line " " ...	Tropical " " ...
Winter Line below " " ...	Winter " " ...
Winter North Atlantic Line " " ...	Winter North Atlantic " " ...