

*Proposed increase in length by 38' 4"*

# LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

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

Ship's Name <b>SIR JAMES CLARK ROSS.</b>	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build	Port of Survey _____
Moulded Dimensions: Length <b>573.58</b> Breadth <b>74.00</b> Depth <b>48.75</b>					Date of Survey <b>15/2/55</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth (excluding bossing) <b>42,890</b> tons					Surveyor's Signature _____
Coefficient of fineness for use with Tables <b>.854 estimated</b>					Particulars of Classification <b>+100A1</b> <b>Whaling Service</b> <b>Carrying Petroleum in Bulk</b>

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... <b>48.75</b>	(a) Where D is greater than Table depth (D-Table depth) R = <b>(49.01 - 38.24) 3 = +32.31</b>	Moulded Breadth (B) = <b>74.00</b>
Stringer plate ... <b>.06</b>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <b>10.77</b>	Standard Round of Beam = $\frac{B \times 12}{50} = \mathbf{17.76}$
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) = \mathbf{.25 \times .8073 = .20}$	If restricted by superstructures <b>✓</b>	Ship's Round of Beam = <b>6.00</b>
Depth for Freeboard (D) = <b>49.01</b>		Difference = <b>11.76</b>
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{11.76}{4} \times .8100 = \mathbf{2.38}$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
F'cle enclosed ...	<b>107.50</b>	<b>107.50</b>			<b>107.50</b>
" overhang ...	<b>3.00</b>	<b>1.50</b>			<b>1.50</b>
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...	<b>110.50</b>	<b>109.00</b>			<b>109.00</b>

Standard Height of Superstructure **7.50'**

" " R.Q.D. \_\_\_\_\_

Deduction for complete superstructure **42.00**

Percentage covered  $\frac{S}{L} = \mathbf{19.27}$

" "  $\frac{S_1}{L} = \mathbf{19.00}$

" "  $\frac{E}{L} = \mathbf{9.50}$

Percentage from Table, Line A. **9.50**  
(corrected for absence of fore-castle (if required))

Percentage from Table, Line B.  
(corrected for absence of fore-castle (if required))

Interpolation for bridge less than .2L (if required)

Deduction = **42.00 × .0950 = -3.99**

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<b>67.36</b>	1			<b>3.75</b>	<b>3.75</b>	1		<b>3.75</b>
$\frac{1}{4}$ L from A.P. ...		4					4		
$\frac{2}{4}$ L " ...		2					2		
Amidships ...		4					4		
$\frac{3}{4}$ L from F.P. ...		2					2		
$\frac{1}{4}$ L " ...		4					4		
F.P. ...	<b>134.72</b>	1			<b>35.75</b>	<b>35.75</b>	1		<b>35.75</b>
Total ...				<b>606.24</b>					<b>39.50</b>

Mean actual sheer aft =  
Mean standard sheer aft =

Mean actual sheer forward =  
Mean standard sheer forward =

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

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{566.74}{18} (.75 - .0963) = \mathbf{+20.58}$   
If limited on account of midship superstructure. **✓** limited to maximum allowance of  $1\frac{1}{2}$  ins. per 100 ft.

<b>Deduction for Tropical Freeboard.</b> <b>Addition for Winter and Winter North Atlantic Freeboard.</b> Depth to Freeboard Deck = <b>49.06</b> Summer freeboard = <b>15.98</b> Moulded draught (d) = <b>33.08</b> Keel allowance = <b>.23</b> Extreme draught = <b>33.31</b> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = Addition for Winter North Atlantic Freeboard (if required) =	<b>Deduction for Fresh Water.</b> 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>TABULAR FREEBOARD</b> corrected for Flush Deck (if required) Correction for coefficient $\frac{.854 + .68}{1.36} = \mathbf{1.534}$ Depth Correction ... <b>32.31</b> Deduction for superstructures ... <b>3.99</b> Sheer correction ... <b>20.58</b> Round of Beam correction ... <b>2.38</b> Correction for Thickness of Deck amidships ... <b>.60</b> Other corrections, scantlings, etc. ... <b>1.40</b> <b>57.27</b> <b>3.99</b> <b>+53.28</b> Summer Freeboard = <b>191.71</b>
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, **15'-11 3/4"**

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



Sir James Clark Ross.

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.

Old displacement at 85% Mld Depth = 39,700 tons.

~~Volume of displacement = 39,700 × 35 = 1,389,500 cu ft.~~

Displacement due to increase in length =  $\frac{38.33 \times 74.00 \times 48.75 \times .85 \times .95}{35}$   
= 3,190 tons.

∴ New displacement at 85% Mld Depth = 42,890 tons.

Loss of buoyancy  
due to skinman =  $\frac{1.50 \times 685.28}{573.58} = 1.4$

Trade of ship \_\_\_\_\_

Names of sister ships \_\_\_\_\_

Builder's name and yard number \_\_\_\_\_

Owners \_\_\_\_\_

Fee £ \_\_\_\_\_



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