

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 SIR JAMES CLARK ROSS	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build	Port of Survey
Moulded Dimensions: Length 573.58 Breadth 74.00 Depth 48.75					Date of Survey 15/2/55
Moulded displacement at moulded draught = 85 per cent. of moulded depth (excluding bossing) 42,890 tons					Surveyor's Signature
Coefficient of fineness for use with Tables .854 estimated					Particulars of Classification 4100A1 <i>Whaling Service</i> <i>Carrying Petroleum in Bulk</i>

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth 48.75	(a) Where D is greater than Table depth (D-Table depth) R = (49.01 - 38.24) 3 = +32.31	Moulded Breadth (B) = 74.00
Stringer plate06	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = 10.77	Standard Round of Beam = $\frac{B \times 12}{50} = 17.76$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = .25 \times .8073 = .20$	If restricted by superstructures <input checked="" type="checkbox"/>	Ship's Round of Beam = 6.00
Depth for Freeboard (D) = 49.01		Difference = 11.76
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{11.76^2}{4} \times .8100 = 2.38$

DEDUCTION FOR SUPERSTRUCTURES.					
	Mean Covered Length (S)	Equivalent Enclosed Length (S)	Height	Height Correction	Effective Length (E)
Poop enclosed					
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed					
" overhang aft					
" overhang forward					
F'cle enclosed	107.50	107.50			107.50
" overhang	3.00	1.50			1.50
Trunk aft					
" forward					
Tonnage opening aft					
" " forward					
Total	110.50	109.00			109.00

Standard Height of Superstructure **7.50**

" " R.Q.D. _____

Deduction for complete superstructure **42.00**

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

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

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

Percentage from Table, Line A. **9.50**
(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 = **42.00 x .0950 = -3.99**

SHEER CORRECTION.							
Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P.	67.36	1		3.75	3.75	1	3.75
$\frac{1}{4}L$ 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.	134.72	1		35.75	35.75	1	35.75
Total			606.24				39.50

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

If limited on account of midship superstructure.

<p>Deduction for Tropical Freeboard.</p> <p>Addition for Winter and Winter North Atlantic Freeboard.</p> <p>Depth to Freeboard Deck = 49.06</p> <p>Summer freeboard = 15.98</p> <p>Moulded draught (d) = 33.08</p> <p>Keel allowance = .23</p> <p>Extreme draught = 33.31</p> <p>Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = _____</p> <p>Addition for Winter North Atlantic Freeboard (if required) = _____</p>	<p>Deduction for Fresh Water.</p> <p>Displacement in salt water at summer load water line</p> <p>$\Delta =$</p> <p>Tons per inch immersion at summer load water line</p> <p>T = _____</p> <p>Deduction = $\frac{\Delta}{40 T}$ inches = _____</p>	<p>TABULAR FREEBOARD corrected for Flush Deck (if required)</p> <p>Correction for coefficient $.854 + .68 = 1.534$</p> <p>Depth Correction 32.31</p> <p>Deduction for superstructures 3.99</p> <p>Sheer correction 20.58</p> <p>Round of Beam correction 2.38</p> <p>Correction for Thickness of Deck amidships60</p> <p>Other corrections, scantlings, etc. 1.40</p> <p>57.27 3.99 +53.28</p> <p>Summer Freeboard = 191.71</p>	<p>122.73</p> <p>138.43</p> <p>AR</p> <p>22-1-55</p>
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, 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 " "	...

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 = $1.50 \times \frac{685.21}{573.58} = 1.4$

Trade of ship _____

Names of sister ships _____

Builder's name and yard number _____

Owners _____

Fee £ _____



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Foundation