

LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name GUMHURYAT MISE LADY NELSON.	Official Number 165046	Nationality and Port of Registry EGYPT. ALEXANDRIA.	Gross Tonnage	Date of Build 1928	Port of Survey
Moulded Dimensions: Length 416.0 Breadth 59.0 Depth 30.96					Date of Survey 8/4/53
Moulded displacement at moulded draught = 85 per cent. of moulded depth (excluding bossing) 13320 tons					Surveyor's Signature
Coefficient of fineness for use with Tables .723					Particulars of Classification B.S. (with freeboard)

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth 30.96	(a) Where D is greater than Table depth (D-Table depth) R = (31.03 - 27.67) 3 = 10.08 3.36	Moulded Breadth (B) 59.00
Stringer plate ... 4.003	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = 14.16$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = \frac{2.75 \left(\frac{70.5}{416} \right)}{12} = .04$	If restricted by superstructures	Ship's Round of Beam = 9"
Depth for Freeboard (D) = 31.03		Difference 5.16
		Restricted to
		Correction = $\frac{\text{Diff}^\circ}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{5.16 \times 18.25}{4} = .24$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...						Standard Height of Superstructure 7'-6"
" overhang ...						" " R.Q.D. 42"
R.Q.D. enclosed ...	300.25	300.25	8'-6"	-	300.25	Deduction for complete superstructure
" overhang ...						Percentage covered $\frac{S}{L} = 83.00$
Bridge enclosed ...						" " $\frac{S_1}{L} = 81.75$
" overhang aft ...						" " $\frac{E}{L} =$
" overhang forward ...						Percentage from Table, Line A. & B. 77.47
F'cle enclosed ...	44.25	39.02	7'-9"		39.02	(corrected for absence of forecastle (if required))
" overhang ...						Percentage from Table, Line B.
Trunk aft ...						(corrected for absence of forecastle (if required))
" forward ...						Interpolation for bridge less than .2L (if required)
Tonnage opening aft ...						Deduction = .7747 x 42 = -32.54
" " forward ...						
Total ...	344.50	339.27			339.27	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	51.5	1		51.50	48.0	48.0	1		48.0
$\frac{1}{8}L$ from A.P. ...	22.92	4		91.68	21.0	21.0	4		84.0
$\frac{3}{8}L$ " ...	5.67	2		11.34	6.0	6.0	2		12.0
Amidships ...	-	4		-	-	-	4		-
$\frac{5}{8}L$ from F.P. ...	11.33	2		22.66	10.0	10.0	2		20.0
$\frac{7}{8}L$ " ...	45.84	4		183.36	41.0	41.0	4		164.0
F.P. ...	103.00	1		103.00	96.0	96.0	1		96.0
Total ...				463.54					424.0

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{39.54}{18} \left(.75 - \frac{.45}{.4150} \right) = +.74$

If limited on account of midship superstructure. If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line $\Delta = 12500$ Tons per inch immersion at summer load water line $T = 48.0$ Deduction = $\frac{\Delta}{40 T}$ inches $= 6.5"$	Correction for coefficient $\frac{.723 + .68}{1.36} = \frac{1.403}{1.36}$
Depth to Freeboard Deck = 30.99		Depth Correction 10.08
Summer freeboard = 7.00		Deduction for superstructures 32.54
Moulded draught (d) = 23.99		Sheer correction74
Keel allowance =		Round of Beam correction24
Extreme draught =		Correction for Thickness of Deck amidships48
Deduction for Tropical freeboard and addition for		Other corrections, scantlings, etc. 27.36
Winter freeboard = $\frac{d}{4}$ inches =		38.42 33.02 + 5.40
Addition for Winter North Atlantic Freeboard (if required) =		Summer Freeboard = 84.00

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

Tropical Fresh Water Line above Centre of Disc ... 6 1/2"	Tropical Fresh Water Freeboard ... 6 1/2"
Fresh Water Line " " ... 6 1/2"	Fresh Water " " ... 6 1/2"
Tropical Line " " ... Not Assigned NIL	Tropical " " ... Not Assigned NIL
Winter Line below " " ... Not Assigned NIL	Winter " " ... Not Assigned NIL
Winter North Atlantic Line " " ... Not Assigned	Winter North Atlantic " " ... Not Assigned

Lady Nelson.

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.

Shear Hgt.

Standard

51.5	1	51.5
22.92	3	68.76
5.67	3	17.01
0	1	0
		<u>137.27</u>

Actual

48.0	48.0
21.0	63.0
6.0	18.0
0	0
<u>129.0</u>	

$$\frac{\text{Actual}}{\text{Standard}} = \frac{129}{137.27} = .94.$$

Fixed Sheel

Standard

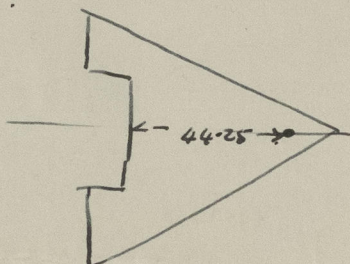
0	1	0
11.33	3	33.99
45.84	3	137.52
103.0	1	103.0
		<u>274.51</u>

Actual

0	0
10.0	30.0
41.0	123.0
96.0	96
<u>269.0</u>	

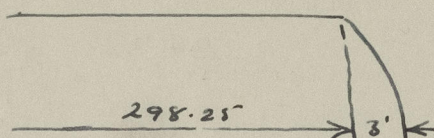
$$\frac{\text{Actual}}{\text{Standard}} = \frac{269}{274.51} = .904.$$

Forecastle



$$\begin{aligned} \text{assumed for } \frac{L}{10} &= 41.50 \times .901 = 37.64 \\ O/H &= 2.75 \times .5 = \frac{1.38}{39.02} \end{aligned}$$

Bridge & Poop



$$\begin{aligned} \text{Lg } d &= 298.25 + \frac{2}{3} \times 3 \\ &= 300.25 \end{aligned}$$

Trade of ship _____

Names of sister ships _____

Builder's name and yard number _____

Owners _____

Fee £ _____



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Foundation