

LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

SURVEYS FOR FREEBOARD

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER)

For LONDON OFFICE ONLY

Received

Index No.

Govt. Copy

Owners C11

Ship's Name FRENULINA	Official Number 169457	Nationality and Port of Registry British Glasgow	Gross Tonnage 890	Date of Build 1945	Port of Survey
Moulded Dimensions: Length 218.625 Breadth 32 Depth 14.75					Date of Survey 5/11/53
Freeboard Length 5 centre of main deck					Surveyor's Signature
Moulded displacement at moulded draught = 85 per cent. of moulded depth (excluding bossing) 1843 tons					Particulars of Classification 100 A1 C.P.B.
Coefficient of fineness for use with Tables .7376					

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... 14.75	(a) Where D is greater than Table depth (D-Table depth) R = (14.75-14.574) 1.81 = .346	Moulded Breadth (B) 32.0
Stringer plate .48	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = .266	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{32 \times 12}{50} = 7.68$
Wood Sheathing on exposed deck -	If restricted by superstructures	Ship's Round of Beam = 7.5
$T \left(\frac{L-S}{L} \right) =$		Difference .18
Depth for Freeboard (D) = 14.78		Restricted to
		Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.18}{4} \times \left(1 - \frac{.2956}{.4} \right) = .0133$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed equivalent ...	60.99	60.99	7.5		60.99
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed Raised up clear of freeboard ...	16.13	16.13	2.75	2.75/6.0	7.39
" overhang aft ...					
" overhang forward ...					
F'cle enclosed ...	20.61	20.61	7.0		20.61
" overhang ...					
Trunk aft 120.125 x 15/22 ...		56.32	2.75	2.75/6.0	25.82
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...	97.73	154.05			114.81

Standard Height of Superstructure **6.0**" " R.Q.D. **1**Deduction for complete superstructure **27.86**Percentage covered $\frac{S}{L} = \frac{44.7}{100} = 44.7$ " " $\frac{S_1}{L} = \frac{70.44}{100} = 70.44$ " " $\frac{E}{L} = \frac{52.52}{100} = 52.52$ Percentage from Table, Line A. Tanker **43.77**

(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 = $27.86 \times .4377 = -12.195$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	31.86	1		31.86	55.87	55.87	1		55.87
$\frac{1}{2}$ L from A.P. ...	14.18	4		56.72	8.11	8.11	4		32.44
$\frac{2}{3}$ L " ...	3.55	2		7.10	0	0	2		-
Amidships ...	0	4		0	0	0	4		0
$\frac{2}{3}$ L from F.P. ...	7.10	2		14.20	0	0	2		-
$\frac{1}{2}$ L " ...	28.36	4		113.44	0	0	4		-
F.P. ...	56.72	1		56.72	40.5	40.5	1		40.5
Total ...				270.04					128.81

Correction = $\frac{\text{Difference between sums of products}}{18} = \frac{465.54 - 2235}{18} = -11.235$

If limited on account of midship superstructure.

Mean actual sheer aft = **Deficient**Mean actual sheer forward = **Deficient**

Length of enclosed superstructure forward of amidships =

" " aft of " =

141.23

41.3

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

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **14.78** Ft.

Summer freeboard = **1.62**

Moulded draught (d) = **13.16**

Keel allowance =

Extreme draught =

Deduction for Tropical freeboard and addition for =

Winter freeboard = $\frac{d}{4}$ inches =

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

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.7376 + .68}{1.36} = 1.04$

	+	-
Depth Correction	.35	
Deduction for superstructures	4.13	12.20
Sheer correction	4.84	
Round of Beam correction	.01	
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc.	4.49	
Total	5.20	12.20

Summer Freeboard = **20.18** 19.47

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

Tropical Fresh Water Line above Centre of Disc ...

Fresh Water Line " " ...

Tropical Line " " ...

Winter Line below " " ...

Winter North Atlantic Line " " ...

Tropical Fresh Water Freeboard ...

Fresh Water " " ...

Tropical " " ...

Winter " " ...

Winter North Atlantic " " ...

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.

218.63
36.44.

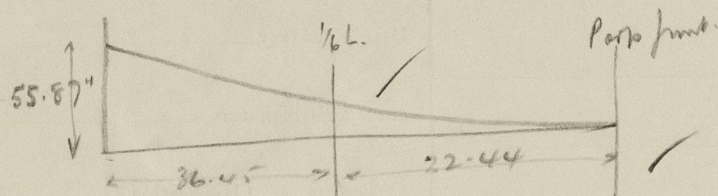
Height of poop at A.P. = 37.87 + 90 = 127.87.
Standard height of poop

$$\frac{72.00}{55.87} \checkmark$$

$$\frac{4}{6} = 36.45$$

Length of poop at A.P. 58.89,
36.45

$$\frac{22.44}{22.44} \checkmark$$



$$55.87 \times \frac{22.44^2}{58.89^2} = 8.114 \checkmark$$

$$55.87 \times \frac{29.44^2}{58.89^2} = 13.97$$

Area under virtual curve aft.

1	55.87	1	55.87
2	13.97	4	55.88
3	-	1	-

$$111.75 \times \frac{1}{3} \times 29.445 = 1097.$$

Area under standard curve aft.

1	31.86	1	31.86
2	14.18	3	42.54
3	3.55	3	10.65
4	-	1	-

$$85.05 \times \frac{3}{8} \times \frac{218.62}{6} = 1162$$

1543
320
1863

$$\frac{28.12 \times 14.75 \times 22 \times 85 \times .995}{35}$$

Trade of ship

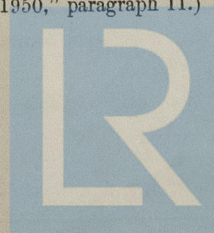
Names of sister ships

Builder's name and yard number

Owners

Fee £

List of plans forwarded for reference. (See "Instructions to Surveyors, Part 4, 1950," paragraph 11.)



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Foundation