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Rpt. C.11 (Comp.).

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Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name Tw. Sc. "MAGDALENA." (YARD N ^o 1354)	Official Number 182955	Nationality and Port of Registry BRITISH LONDON.	Gross Tonnage 17,547	Date of Build LAUNCHING DATE 11:5:40	Port of Survey Belfast
Moulded Dimensions: Length 540'-10 ³ / ₈ " Breadth 73'-0" Depth 45'-0" (To CENTRE OF RUDDER STOCK)					Date of Survey During construction
Moulded displacement at moulded draught = 85 per cent, of moulded depth (38'-3") 30842 tons (Ex Bossing)					Surveyor's Signature A.S. Fletcher
Coefficient of fineness for use with Tables .715					Particulars of Classification *100 A1 with Freeboard (Class contemplated)

DEPTH FOR FREEBOARD (D). Moulded depth ... 45'-0" Stringer plate :50"04 2 1/2" Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = \frac{2.5 \times 1624}{12} = .03$ Depth for Freeboard (D) = 45.07	DEPTH CORRECTION. (a) Where D is greater than Table depth (D-Table depth) R = (45.07-36.06) 3 = + 27.03" 9.01 (b) Where D is less than Table depth (if allowed) (Table depth-D) R = If restricted by superstructures	ROUND OF BEAM CORRECTION. Moulded Breadth (B) 73'-00" Standard Round of Beam = $\frac{B \times 12}{50} = 17.52"$ Ship's Round of Beam = 6" Difference 11.52" Restricted to Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{11.52 \times 1682}{4} = +.48"$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	✓					
" overhang	✓					
R.Q.D. enclosed	✓					
" overhang	✓					
Bridge enclosed	✓					
" overhang aft	440.5	440.50	8.5'	✓	440.50	
" overhang forward						
F'cle enclosed	12.5	9.37			9.37	
" overhang						
Trunk aft	✓					
" forward	✓					
Tonnage opening aft	✓					
" " forward	✓					
Total	453.00	449.87			449.87	

Standard Height of Superstructure	7.5'
" " R.Q.D.	✓
Deduction for complete superstructure	42"
Percentage covered $\frac{S}{L} =$	83.76 ✓
" " $\frac{S_1}{L} =$	83.18 ✓
" " $\frac{E}{L} =$	
Percentage from Table, Line A & B	79.24 ✓
(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 × 79.24 =	- 33.28" ✓

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	64.09	1		64.09	41.25	41.25	1		41.25
1/4 L from A.P.	28.52	4		114.08	18.25	18.25	4		73.00
1/2 L	7.05	2		14.10	4.125	4.125	2		8.25
Amidships	-	4		-	0	-	4		-
3/4 L from F.P.	14.10	2		28.20	11.44	11.44	2		22.88
1/4 L	57.04	4		228.16	41.44	41.44	4		165.76
F.P.	128.17	1		128.17	69.875	69.875	1		69.87
Total				576.80					381.01

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 = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{195.79}{18} \left(.75 - .4188 \right) = + 3.60$
If limited on account of midship superstructure.

If limited to maximum allowance of 1 1/2 ins. per 100 ft.

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 45.04 Summer freeboard = 16.37 Moulded draught (d) = 28.67 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 $\Delta = 22,229$ Tons per inch immersion at summer load water line $T = 75.63$ Deduction = $\frac{\Delta}{40 T}$ inches = $\frac{22,229}{40 \times 75.63} = 7.35 = 7 \frac{1}{4}$ " FULL DRAFT 28'-0" 21549 Tons 75.23 29'-0" 22455 " 75.76	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{.715 + .68}{1.36} = 1.335 / 1.36$ Depth Correction ... 27.03 Deduction for superstructures ... 33.28 Sheer correction ... 3.60 Round of Beam correction48 Correction for Thickness of Deck amidships36 Other corrections, scantlings, etc. corresponding to an all seasons moulded draught of 28'-8" Summer Freeboard = 196.50 ✓
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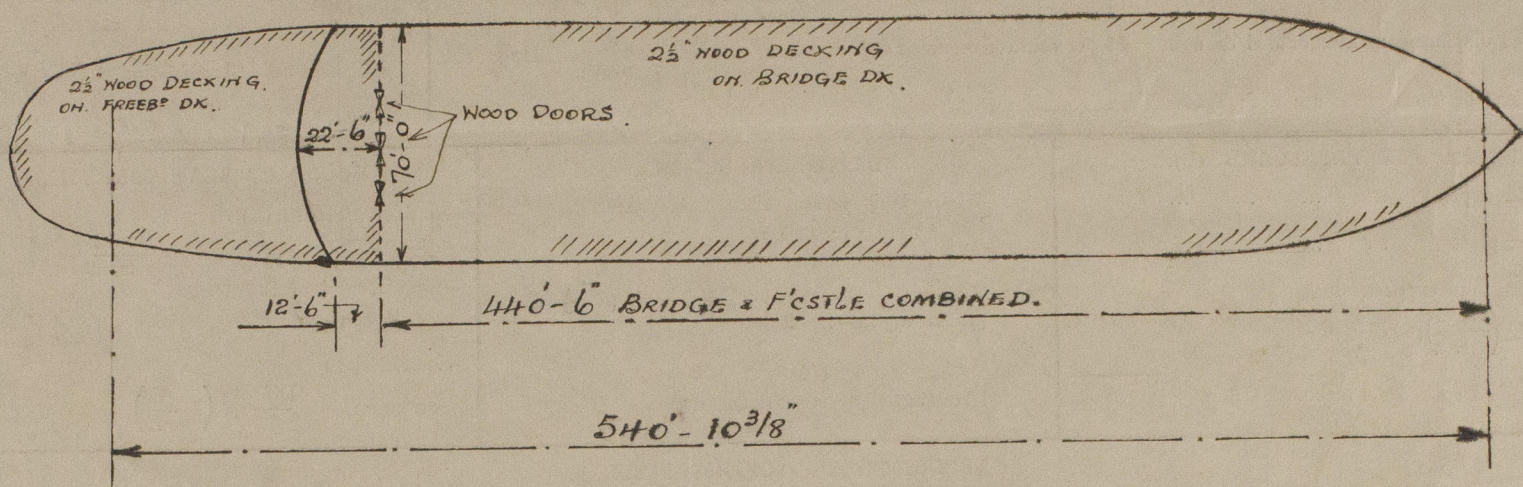
SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-

Tropical Fresh Water Line above Centre of Disc	7 1/4"
Fresh Water Line	7 1/4"
Tropical Line	NIL
Winter Line below	NIL
Winter North Atlantic Line	✓

Tropical Fresh Water Freeboard	16'-4 1/2"
Fresh Water	15'-2 1/4"
Tropical	15'-2 1/4"
Winter	16'-4 1/2"
Winter North Atlantic	✓

Magdalena.

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.



OPENINGS: BRIDGE AFTER BULKHEAD: - 3 openings $5'-10\frac{1}{2}'' \times 4'-7\frac{1}{2}''$ wide with 15" sills closed by wood hinged doors operated from both sides.

Breadth of Freeboard deck at Bridge Aft End = $70'-0''$.

The distance from the top of the freeboard deck at side to the top of the sloping up plate chock measured at the shell is 2" at the position where the Freeboard will be set off.

This report C.11. (comp) is forwarded for marking of Freeboards, before vessel is launched on 11th May 1948.

Trade of ship Insulated bargoes and Passenger.

Names of sister ships ✓

Builder's name and yard number Messrs Harland and Wolff Ltd; Belfast No 1354.

Owners Messrs Royal Mail Lines Ltd;

Fee £ 6 mit



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