

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index No. 34952
(For London Office only.)

11 JUN 1936

W131

 having
 Computation of Freeboard for Steamer, Sailing Ship, Tanker
 POOP, BRIDGE & FORECASTLE

Port of Survey NEW YORK

(Type of Superstructures.)

Date of Survey 25th MAY 1936

Name of Surveyor A. G. House

 Particulars of Classification 2100 A1 SPAR DECK
 TRANSVERSE FRAMING. MACH. AFT.
 CARRYING PETROLEUM IN BULK

 Ship's Name S.S. "LIGONIER"
 Nationality and Port of Registry BRITISH LONDON
 Gross Tonnage 3737
 Date of Build 1903-5
 Moulded Dimensions: Length 360 Breadth 46.25 Depth 27.33
 Moulded displacement at moulded draught = 85 per cent. of moulded depth 8800 tons
 Coefficient of fineness for use with Tables .796

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	27.33	(a) Where D is greater than Table depth (D - Table depth) R = (27.33 - 24) × 2.769 = 9.36		Moulded Breadth (B)	46.25
Stringer plate	(.60)	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Standard Round of Beam = $\frac{B \times 12}{50}$	11.1
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$		If restricted by superstructures		Ship's Round of Beam	11.5
Depth for Freeboard (D) =	27.38			Difference	.4
				Restricted to	.4
				Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right)$	-.08 = -.05

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	34.00	34.00	7.5		34.00
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed	28.00	28.00	7.5		28.00
" overhang aft					
" overhang forward					
Fore enclosed	38.55	38.55	7.5		38.55
" overhang	4.45	2.22	7.5		2.22
Trunk aft		38.92	2.0	2/7.10	10.96
" forward		41.08	2.0	2/7.10	11.57
Tonnage opening aft					
" forward					
Total	105.00	83.50			125.30

Standard Height of Superstructure 76 7.10

" " R.Q.D. ✓

Deduction for complete superstructure 39.33 ✓

Percentage covered $\frac{S}{L} = 29.17$ " $\frac{S_1}{L} = 23.19$ 50.77 ✓" $\frac{E}{L} = 29.44$ 34.80 ✓

Percentage from Table, Line A. 19.08

(corrected for absence of forecastle (if required))

Percentage from Table, Line B. 23.08

(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required) 20.64

Deduction = -6.39 39.33 × 20.64 = -8.12 ✓

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	46.00	1		46.00	31.20	31.20	1		31.20
$\frac{1}{2}$ L from A.P.	20.47	4		81.88	5.20	5.20	4		20.80
$\frac{3}{4}$ L	5.06	2		10.12	-	-	2		-
Amidships	-	4		-	-	-	4		-
$\frac{3}{4}$ L from F.P.	10.12	2		20.24	-	-	2		-
$\frac{1}{2}$ L	40.94	4		163.76	14.80	14.80	4		59.20
F.P.	92.00	1		92.00	73.10	73.10	1		73.10
Total				414.00					184.30

 Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = 12.76 - 7.66 = 5.10$

If limited on account of midship superstructure. ✓

If limited to maximum allowance of 1½ ins. per 100 ft. ✓

 Deduction for Tropical Freeboard.
 Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 27-4½

Summer freeboard = 6-3¼

Moulded draught (d) = 21-7¾

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 5¼

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

Δ = 8860

Tons per inch immersion at summer load water line

T = 34.2

Deduction = $\frac{\Delta}{40T}$ inches

= 5.86

= 5¼

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{746 + .68}{1.36} = \frac{1476}{1.36}$

Depth Correction ... 9.36

Deduction for superstructures ... 8.12

Sheer correction ... 7.66

Round of Beam correction05

Correction for Thickness of Deck amidships08

Other corrections, scantlings, etc. ...

Summer Freeboard = 75.02 73.37

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

Tropical Fresh Water Line above Centre of Disc ... 11"

Fresh Water Line ... 5¾"

Tropical Line ... 5¾"

Winter Line below ... 5¼"

Winter North Atlantic Line ... 5¼"

Tropical Fresh Water Freeboard ... 6-3¼"

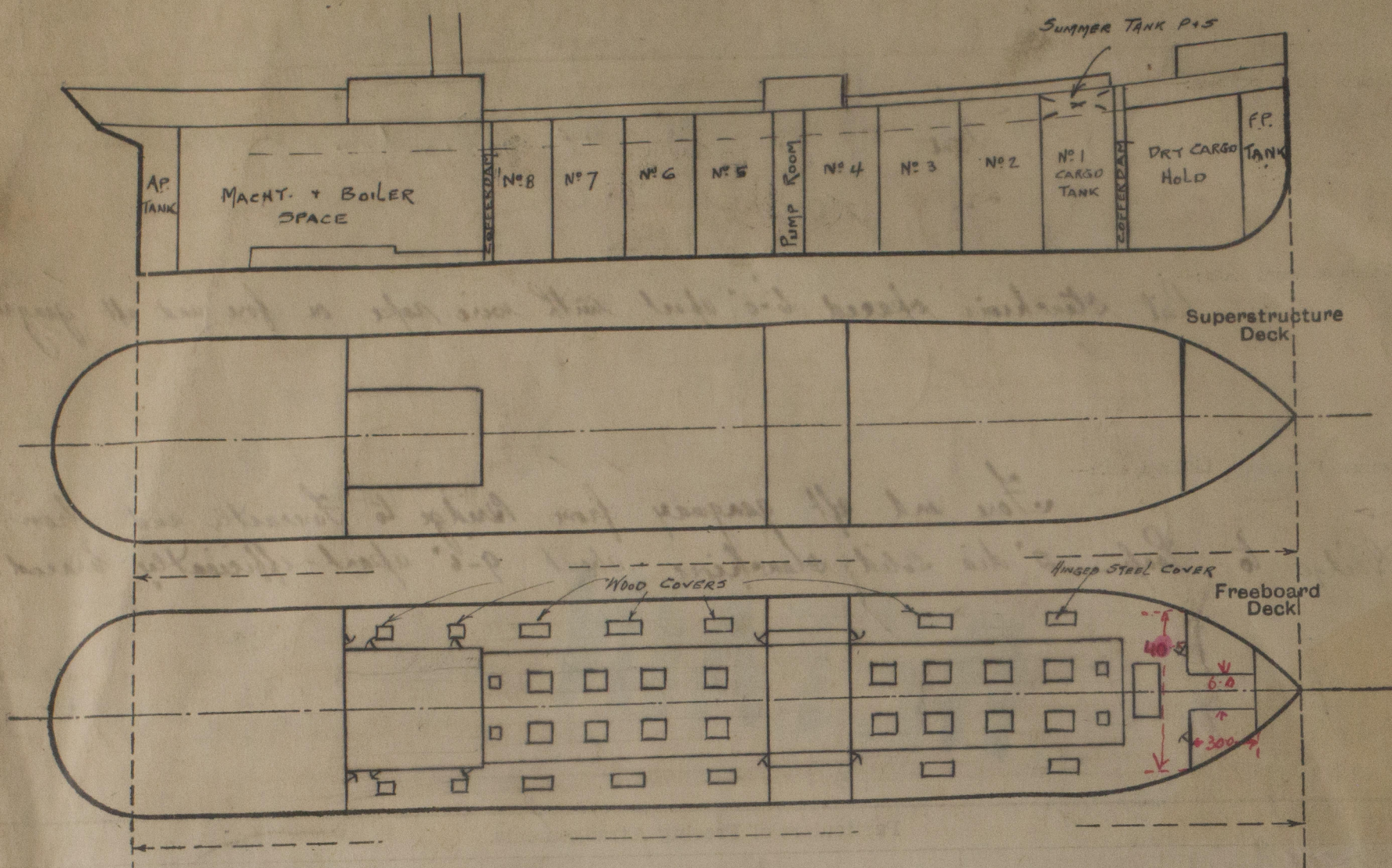
Fresh Water ... 5-4¼"

Tropical ... 5-9¾"

Winter ... 5-9¾"

Winter North Atlantic ... 6-8¼"

Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shown on the following sketches:—



$$\begin{aligned} \text{Forecastle} &= 43.00 \\ \text{Recess} &= \frac{30 \times 6}{40.5} = - \frac{4.45}{38.55} \text{ equivalent} \end{aligned}$$

State any special features in the construction of the ship:—

Builder's name and yard number NEW YORK SHIPBUILDING CO HULL N° 9

Names of sister ships ✓

Owners ARCHANGEL, LONDON TRANSPORT COMPANY LTD. (HANS HANNEVIG, MANAGER)

Fee \$ 60 ⁰⁰/₁₀₀

Received by me



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