

15 APR 1932

Rpt. C.11.

Index. No. **29784**
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

No. 100174.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

COMBINED: FORECASTLE-BRIDGE AND "POOP."

Port of Survey **LIVERPOOL:**

(Type of Superstructures.)

Date of Survey **11th 4:32: And Subsequently:**

Ship's Name

Nationality and Port of Official Number

Gross Tonnage

Date of Build

"SCYTHIA"

BRITISH:

143730.

19761

1920.

LIVERPOOL:

Name of Surveyor **J. V. Ellalcolu Som.**Moulded Dimensions: Length **600.7** Breadth **73.8** Depth **45.0** ✓ **D deck**
Displacement at moulded draught = 85 per cent. of moulded depth **35724** tons
Coefficient of fineness for use with Tables **.741**Particulars of Classification **8.100: A1:****SHELTER: DE WITH FREEBOARD.**

Depth for Freeboard (D)

Depth correction

Round of Beam correction

Moulded depth ... **45.0** ✓
Stringer plate ... **.48** ... **.04**
Sheathing on exposed deck
 $T \left(\frac{L-S}{L} \right) = \frac{.25 \times 88}{600} =$ **.03**

(a) Where D is greater than Table depth
(D - Table depth) R =
(45.07 - 40.0) 3 = +15.21
(b) Where D is less than Table depth (if allowed)
(Table depth - D) R =

Moulded Breadth (B) **73.8.73.5**
Standard Round of Beam = $\frac{B \times 12}{50} =$ **17.64**
Ship's Round of Beam = **4**
Difference **13.64**
Restricted to
Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{13.64^2}{4} \times \left(1 - \frac{.48}{600} \right) =$ **+1.50**

Depth for Freeboard (D) = **45.07**

If restricted by superstructures

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	24.66	24.66	8'-0"		24.66
„ overhang ...					
R.Q.D. enclosed					
„ overhang					
Bridge enclosed...					
„ overhang aft					
„ overhang forward	487.33	487.33	8'-5"		487.33
„ enclosed ...					
„ overhang ...					
Trunk aft ...					
„ forward ...					
Tonnage opening aft ...					
„ „ forward					
Total ...	511.99	511.99			511.99

Standard Height of Superstructure **7.50**

„ „ R.Q.D. ✓

Deduction for complete superstructure **42.0**Percentage covered $\frac{S}{L} =$ **85.33**„ „ $\frac{S_1}{L} =$ **85.33**„ „ $\frac{E}{L} =$ **85.33**Percentage from Table, Line A.
(corrected for absence of forecastle (if required)) ✓Percentage from Table, Line B.
(corrected for absence of forecastle (if required)) **81.91**

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

Deduction = **42 × 81.91 = -34.40**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	70.00	1	70.00	72	72.00	70.00	1	70.00	70.00
$\frac{1}{4}$ L from A.P. ...	31.15	4	124.60	32	31.99	31.15	4	124.60	124.60
$\frac{2}{4}$ L „ ...	7.70	2	15.40	8 1/2	7.98	7.70	2	15.40	15.40
Amidships ...		4		0			4		
$\frac{3}{4}$ L from F.P. ...	15.40	2	30.80	16	15.37	15.37	2	30.74	30.74
$\frac{1}{4}$ L „ ...	62.30	4	249.20	61	61.62	61.62	4	246.48	246.48
F.P. ...	140.00	1	140.00	138	138.0	138.0	1	138.00	138.00
Total ...			630.00					625.22	

Mean actual sheer aft = **Even**
Mean standard sheer aft =Mean actual sheer forward = **Deficient**
Mean standard sheer forward =Length of enclosed superstructure forward of amidships = **Combined Forecastle & Bridge**
„ „ aft of „ = **.31**Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{4.78}{18} \left(.75 - \frac{.4266}{2} \right) =$ **+ .09** ✓

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.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **45.21**
Summer freeboard = **12.79**
Moulded draught (d) = **32.42**

Addition for tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = **8.10**
Addition for Winter North Atlantic Freeboard (if required) = **8**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$ **29807**

Tons per inch immersion at summer load water line

 $T =$ **85.6**Deduction = $\frac{\Delta}{40T}$ inches**= 8.70****8 3/4**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.741 + .68}{1.36} = \frac{1.421}{1.36}$ Depth Correction ... **15.21** -Deduction for superstructures ... **- 34.40**Sheer correction ... **.09** -Round of Beam correction ... **.50** -Correction for Thickness of Deck amidships ... **1.64** -Other corrections, scantlings, etc. ... **35.16****52.60** **34.40** **+ 18.20**Summer Freeboard = **153.50**SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, **Wood/Steel, Deck:**Tropical Fresh Water Line above Centre of Disc ... **16 3/4**Fresh Water Line „ „ ... **8 3/4**Tropical Line „ „ ... **8**Winter Line below „ „ ... **8**Winter North Atlantic Line „ „ ... **✓**Tropical Fresh Water Freeboard ... **12' 9 1/2"** **12' 9 1/2"**Fresh Water „ „ ... **11' 4 3/4"** **11' 4 3/4"**Tropical „ „ ... **12' 0 3/4"** **12'**Winter „ „ ... **12' 1 1/2"** **12'**Winter North Atlantic „ „ ... **13' 5 1/2"** **13'**

Passenger lines to be marked 12 inches + 29 inches MARKING FROM CENTRE OF DISC

RECEIVED

3 FEB 1934

RECEIVED

Scythia

Looking bar filed
to forward testimony
at Lw. 6/11/42

"NONE" ✓

C		DECK: FWD:-		Hood companionway forward to Crews:- 5'-0" W.T. DOOR, with "q" sill above wood decks. Strongly constructed and efficient.	
1 st	ISLAND HOUSE FWD:-	1 PORT 1 STARBOARD	WELCAIS W.T. DOOR 5'-9" x 30"	WITH: "q" SILL ABOVE WOOD DECKS.	OPERATED FROM BOTH SIDES AND EFFICIENTLY CONSTRUCTED
2 nd	"	2 AT. AFT. END.	"	"	"
3 rd	"	1 PORT 1 STARBOARD:	"	"	"
4 th	"	4 AT. AFT. END.	"	"	"
5 th	"	"	"	"	"
6 th	"	"	"	"	"
7 th	"	"	"	"	"
8 th	"	"	"	"	"
9 th	"	"	"	"	"
10 th	"	"	"	"	"
11 th	"	"	"	"	"
12 th	"	"	"	"	"
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20 th	"	"	"	"	"
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32 nd	"	"	"	"	"
33 rd	"	"	"	"	"
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37 th	"	"	"	"	"
38 th	"	"	"	"	"
39 th	"	"	"	"	"
40 th	"	"	"	"	"
41 st	"	"	"	"	"
42 nd	"	"	"	"	"
43 rd	"	"	"	"	"
44 th	"	"	"	"	"
45 th	"	"	"	"	"
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51 st	"	"	"	"	"
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70 th	"	"	"	"	"
71 st	"	"	"	"	"
72 nd	"	"	"	"	"
73 rd	"	"	"	"	"
74 th	"	"	"	"	"
75 th	"	"	"	"	"
76 th	"	"	"	"	"
77 th	"	"	"	"	"
78 th					

LOCKS IN ALL ABOVE CASES ARE GOOD: ✓ FULL ACTUAL OPENINGS ARE GIVEN IN EACH CASE. ✓

{ All Vents on "C" Deck: are patent }
{ W.T. Mushroom Type: ✓ }

{ Canvas covers and wood plugs }
{ are on board for all Vents. ✓ }

Cavitas. corns are on board. for all
"goose-neck type" air pipes. ✓

1 Steel air pipe on "C" Deck aft. 17 1/2" high x 4" diam led to after peak. ✓
 4 " " " "D" " 2'-6" " x 4" " " " D. B. Tanks. Nos 18-19. 20. ✓
 1 " " " "C" " Fwd. 17 1/2" " x 4" " " " FORE. PEAK. ✓

[illegible]

All scuppers below forecast deck are fitted with ground storm valves. ✓
 " " above " " Gunmetal N.R.V.s. ✓
 " " are in efficient condition: ✓

Particulars of Side Scuttles :

"C": DECK: Permanently hung deadlights on top forward Island. Hoses: ✓
 "D": " " " from aft end No. 2 Hatch forward: ✓
 "E": " Forward and after Dining saloon. portable discs; remainder permanently hung deadlights. ✓
 "F": " All fitted with portable discs and permanently hung deadlights. ✓

"C" Deck Forward: Rails: 3'-6" high 5 Rods: and Stanchion spaced: 4'-3" apart. ✓
 "C" " Aft: " 3'-9" " 4 "Woodrail: " " 4'-3" " ✓
 "D" " Well aft: Plating 3'-9" above wood deck: Efficiently stayed with deep flanged bracket. ✓

"NONE"

State position of each freeing port { After Well:— None.
 B. and A. position and height above deck edge) { Forward Well:— —
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—
 Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.Particulars of Closing Appliances (state if capable of being manipulated from both sides).

and 1 slab sliding door in efficient condition strongly constructed and capable of being operated from both sides: locks good.

" " Steel W.T. door	" "	" "	" "	" "	" "	" "	" "	" "	" "
" " Solid Wood door double	" "	" "	" "	" "	" "	" "	" "	" "	" "

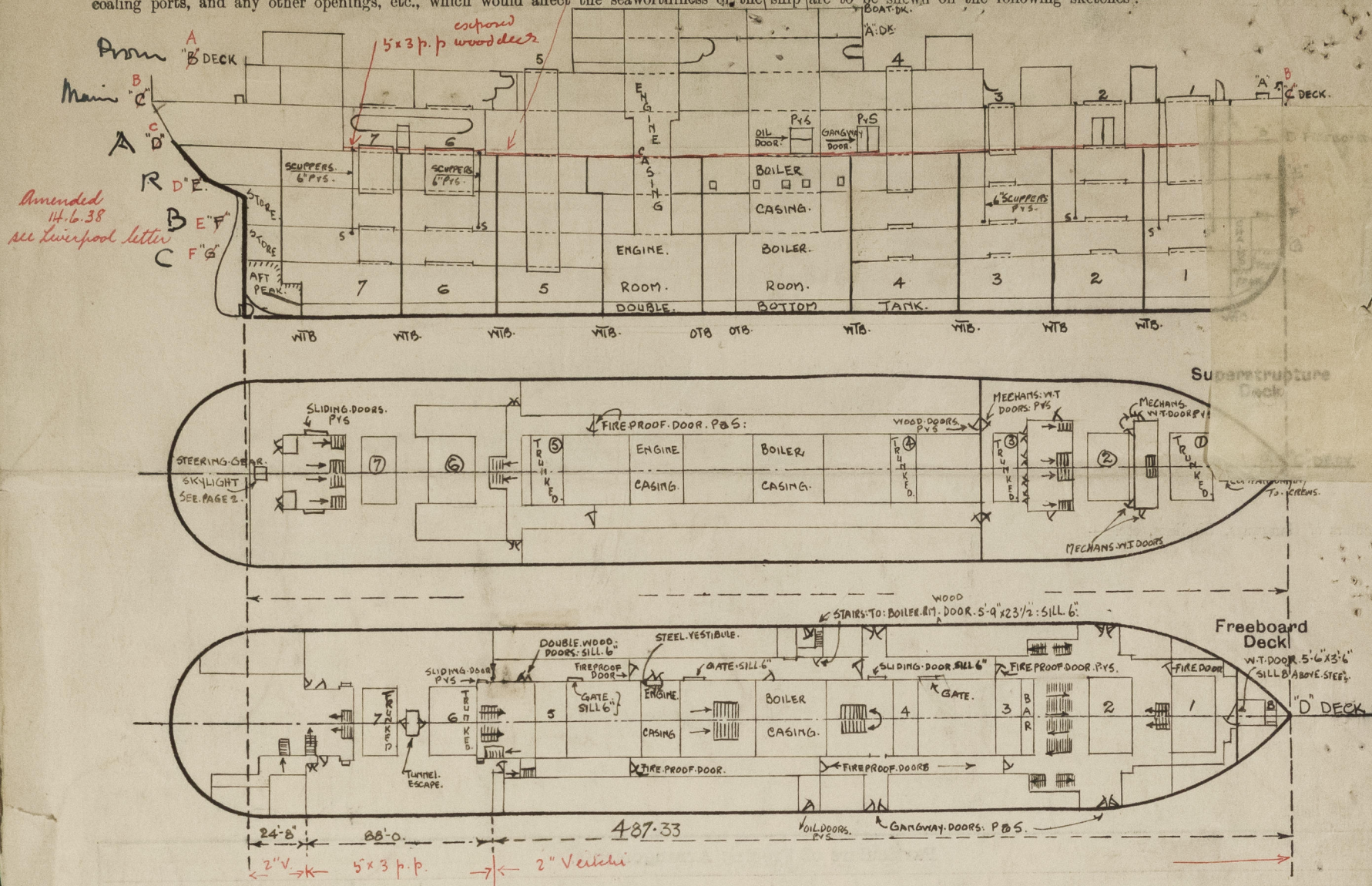
} LOCKS
EFFICIENT.

Playway - permanent chambers: with 3 shifting boards fitted tightest ^{solid} ^{vertical} with shifting frame $6 \times 8 \times 9 \frac{1}{2}$

Sliding wood doors in efficient condition; strongly constructed and capable of being operated from both sides: locks good.

(NOTE:- IN WAY OF ABOVE SLIDING DOORS IN BRIDGE END INSIDE CHANNELS ARE FITTED TAKING SHIFTING BOARDS FULL HEIGHT)

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:—



N.B.: ALL SILLS ARE GIVEN ABOVE COMPOSITION ON FREEBOARD DECK UNLESS MENTIONED OTHERWISE.

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

Small hatches forward: "A", 4'0" x 4'0" x 2 1/2". Coaming x 1/2" thick. Steel cover strongly constructed and w.t. with butterfly nuts.

"B" 4'0" x 4'0" x 4" Coaming x 1/4" " with 3" wood covers on 2 1/2" Rost bars, tarpaulins and efficient locking bars.

75% depth: 34 - 0 1/2 R.K. = 31220 tons
3" steel 156 steel
33 - 9 1/2 mld 31064 mld

85% MD: 38 - 3 mld
53 - 9 1/2
4 - 5 1/2 = 53 1/2"

T.P.1 at 38 - 3 = 87.6 } = 87.1 mean
" " 33 - 9 1/2 = 86.6
53 1/2 x 87.1 = 4660.

33 - 9 1/2 mld = 31064
4 - 5 1/2 = 4660
38 - 3 = 35724

Builder's name and yard number VICKERS LTD. YARD: No 493.

Names of sister ships "LACONIA" & "SAMARIA"

Owners CUNARD STEAMSHIP CO. LTD.

Fee £ 17 : / : / Received by me



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