

Rpt. C21.  
Vandura  
31641

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Index. No. (For London Office only.)

W42

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

24456.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having poop, bridge and forecastle

Port of Survey Rotterdam

Date of Survey 15-16/4-1936

Name of Surveyor C. Mearns

Particulars of Classification +100 A1

MARYAD (Type of Superstructures.)

Ship's Name S.S. "VITRUVIA" Nationality and Port of Official Number London Registry 148906 Gross Tonnage 4870 Date of Build 1916-5

Moulded Dimensions: Length 374.75 Breadth 51.5 Depth 29.2

Moulded displacement at moulded draught = 85 per cent. of moulded depth 10458 tons

Coefficient of fineness for use with Tables .765

Depth for Freeboard (D)

Moulded depth ... .. 29.18

Stringer plate ... .. 0.05

Sheathing on exposed deck

$T \left( \frac{L-S}{L} \right) =$  ✓

Depth for Freeboard (D) = 29.22

Depth correction

(a) Where D is greater than Table depth  
(D-Table depth) R =  $(29.22 - 24.98) 2.882$   
= + 12.22"

(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) 51.5

Standard Round of Beam =  $\frac{B \times 12}{50} =$  12.36"

Ship's Round of Beam = 1.08 = 13.00"

Difference Excess = .64"

Restricted to

Correction =  $\frac{\text{Diff}^e}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.64}{4} \times .5114 = -.08"$

### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	104.0	104.00	7'-11"	✓	104.00
" overhang ...	3.5	1.75	✓		1.75
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed...	29.0	29.00	7'-11"	✓	29.00
" overhang aft ...	3.0	2.25	✓		2.25
" overhang forward	3.0	1.75			1.75
Fore enclosed ...	50.0	44.35	7'-11"	✓	44.35
" overhang ...	44.35				
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward					
Total ...	186.85	183.10			183.10

Standard Height of Superstructure 7'-2 1/4"

" " R.Q.D. ✓

Deduction for complete superstructure 40.31"

Percentage covered  $\frac{S}{L} =$  49.86%

" "  $\frac{S_1}{L} =$  48.86%

" "  $\frac{E}{L} =$  48.86%

Percentage from Table, Line A. Tanker. 39.86%  
(corrected for absence of forecastle (if required))

Percentage from Table, Line B.  
(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = 40.31 x .3986 = -16.07"

### SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	47.47	1		47.47	48.00	48.00	1		48.00
1/8 L from A.P. ...	21.12	4		84.48	21.75	21.75	4		87.00
2/8 L " ...	5.22	2		10.44	5.50	5.50	2		11.00
Amidships ...	✓	4		✓	✓	✓	4		✓
2/8 L from F.P. ...	10.44	2		20.88	11.00	11.00	2		22.00
1/8 L " ...	42.24	4		168.96	44.00	44.00	4		176.00
F.P. ...	94.94	1		94.94	96.00	96.00	1		96.00
Total ...				427.27					440.00

Mean actual sheer aft = Excess

Mean standard sheer aft = Excess

Mean actual sheer forward = Excess

Mean standard sheer forward = Excess

Length of enclosed superstructure forward of amidships = Tanker.

" " aft of " = Tanker.

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{12.73}{18} (.75 - .2493) = -.35"$

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 = 29.22

Summer freeboard = 4.67

Moulded draught (d) = 24.55

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches =  $6.14" = 6.14"$

Addition for Winter North Atlantic Freeboard (if required) =  $6.14" + 3.75" = 9.89" = 10"$

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 10396$

Tons per inch immersion at summer load water line

$T = 38.60$

Deduction =  $\frac{\Delta}{40T}$  inches =  $6.73" = 6.73"$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient  $\frac{765 + .68}{1.36} = \frac{1.445}{1.36}$

	+	-
Depth Correction ...	12.22	-
Deduction for superstructures ...	-	16.07
Sheer correction ...	-	.35
Round of Beam correction ...	-	.08
Correction for Thickness of Deck amidships ...	-	-
Other corrections, scantlings, etc. ...	-	-
	12.22	16.50
Summer Freeboard =	56.00	

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

Tropical Fresh Water Line above Centre of Disc ...	13"	Tropical Fresh Water Freeboard ...	4'-8"
Fresh Water Line " " ...	6 1/4"	Fresh Water " " ...	3'-7"
Tropical Line " " ...	6 1/4"	Tropical " " ...	4'-1 1/4"
Winter Line below " " ...	6 1/4"	Winter " " ...	4'-1 3/4"
Winter North Atlantic Line " " ...	10"	Winter North Atlantic " " ...	5'-2 1/4"
			5'-6"

24 APR 1936

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## PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway ... ..			Main cargo tanks		Summit tanks.		Halter on poop deck		
Dimensions of Hatchway ... ..			4'0" x 3'6"		see below.		6'-8" x 10'0"		
COAMINGS	{	Height above Deck ... ..	9 x 3½ x .50 BA		36" coaming,		30" coaming,		
		Thickness ... ..	forewell		.44		.40		
		Stiffeners ... ..	8 hatches		.44		.40		
		Brackets, Stays ... ..			-		-		
HATCH BEAMS	{	Number ... ..	Afterwell		forewell 6 hatches		none		
		Spacing ... ..	10 hatches		No 1. 5'0" x 4'0"				
		Scantling and Sketch ... ..			No 2. 10'0" x 4'0"				
		Bearing Surface ... ..			No 3. 6'6" x 4'0"				
FORE AND AFTERS	{	Number ... ..			Afterwell 6 hatches				
		Spacing ... ..			No 4. 6'6" x 4'0"				
		Unsupported Lengths ... ..			No 5. 10'0" x 4'0"		none		
		Scantling* and Sketch ... ..			No 6. 10'0" x 4'0"				
Bearing Surface ... ..									
HATCH COVERS	{	Material ... ..	steel oil tight covers.		steel bolted covers. 62		2½" from		
		Thickness ... ..	.60		enhance halter at		longitudinally		
		How fitted ... ..	fastened with 1½" toggles		apertures of each hatch		3"		
		Bearing Surface ... ..	spaced 16"		2'6" x 2'6"				
Spacing of Cleats ... ..				9 x 3½ x .50 BA					
Number of Tarpaulins ... ..				steel oil tight cover. 60		2' apart			
				fastened with 1½" toggles		2 tarpaulins			
				spaced 16"					
*Are wood fore and afters steel shod at all bearing surfaces? ✓									
Are battens and wedges efficient and in good condition? -----									
Are tarpaulins in good condition and in accordance with rule requirements? -----									
Are lashings provided in accordance with rule requirements? -----									
Yes ✓									
Yes ✓									
Yes ✓									

Particulars of fiddley, funnel and ventilator coamings:—

Fidley and engine casing enclosed by poop, above poop deck exposed. -  
 Funnel and ventilator casings in efficient condition. ✓  
 Engine skylight all steel with steel flaps strongly constructed. ✓  
 Grating on fidley top protected by sheet hinged covers. -

Particulars of Flush Bunker Scuttles:— *none fitted.*

Particulars of Companionways:— Efficiently constructed steel deckhouse in forewell leading to pump room 6'0" x 22'0" x 7'8" with steel hinged watertight doors on afterside 8'0" x 2'6" sill 18" capable of being operated from both sides. — Companionways at after end of engine casing each side of steering gear recess leading to accommodation in enclosed poop with 1 3/4" thick doors 4'10" x 2'0" opening, sill 18" capable of being manipulated from both sides.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks :—

Ventilators in exposed positions on freeboard and superstructure decks:—					
Forecastle deck	2 vents	12" dia.	craming	36" x .34	leading to forepeak.
	4 "	10" "	"	18" x .30	" " enclosed forecattle.
	2 "	6" "	"	18" x .28	" " "
Poop deck	2 "	12" "	"	30" x .32	" " poop
	2 "	9" "	"	30" x .30	" " "
	9 "	6" "	"	18" x .28	" " "

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks :—

Forecastle deck 2. air pipes 5' dia. x 10' high from duplex, gauge fitter, canvas cover, air pipes cargo tanks carried up along masts, provided

Particulars of Gangway Cargo and Coaling Ports:— *none fitted.*

## Particulars of Scuppers and Sanitary Discharge Pipes —

Forewell 2 scupper pipes each side  
Afterwell 3 scupper pipes each side

Sanitary discharges.

in way forecabin	2	discharges on port; 2 discharges on starb' fitted with storm valves above feedboard deck.
in way bridge	1	" " " ; 1 " " " " " "
in way poop	2	" " " ; 2 " " " " " " below feedboard deck.

Particulars of Side Scuttles :

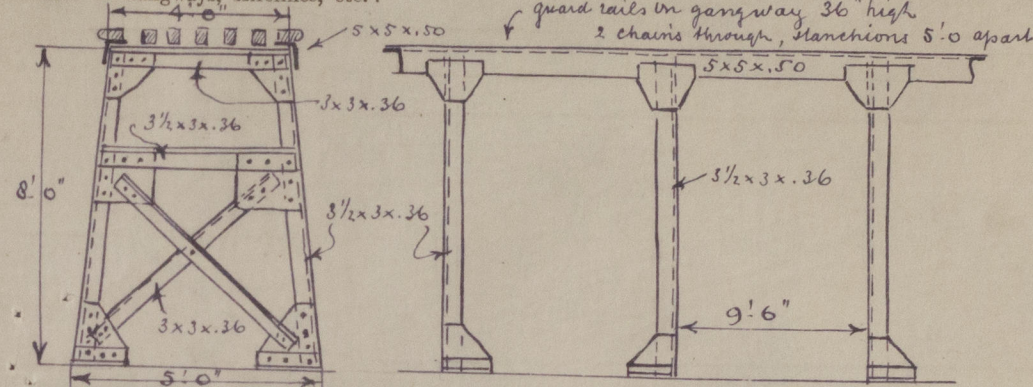
Scuttles: All scuttles of substantial construction fitted in poop, bridge and forecabin spaces are provided with permanently attached deadlights.

Particulars of Guard Rails :—

Guard rails on forecastle deck	3' 10"	high with three rods and slanchions spaced	5' 9" apart.
" " " Bridge deck	3' 6"	" " " " "	" " 5' 0" apart.
" " " poop deck	3' 9"	" " " " "	" " 3' 6" apart.

Steel bulwarks on foreboard deck in fore and afterwell 3' 11" high, efficiently constructed and supported by hullplate strengtheners 8" x 1/2" spaced  $\pm$  4' 0" apart connected to deck with double lugs and single lugs to bulwark plate. Full height of bulwark plate

Particulars of Gangways, Lifelines, etc. :—



gangway extending from prop deck  
to bridge deck and from bridge deck  
over pump room house to forecabin.  
deck constructed as per sketch  
Supports spaced about 9' 6" apart  
Cross ties fitted in alternate supports  
and longitudinal brackets fitted  
on top and bottom of supports as per  
sketch. —

## Particulars of Freeing Arrangements

	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well ... ..	102.0	3.9	9 × 3.0 × 1.7 12 × 3.5 × 1.7	21	117.3 ✓	99.5 ✓
Forward Well ... ..	89.2	3.9	8 × 3.0 × 1.7 10 × 3.5 × 1.7	18	100.3 ✓	84.0 ✓

State position of each freeing port ... } After Well :—  
(F. and A. position and height above deck edge) } Forward Well :— } 10" above deck edge.

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—  
*freeing ports 3.0 x 1.7 - 2 horizontal bars 7/8" dia*  
*freeing ports 3.5 x 1.7 - 1 " " 1 1/8" dia*

## Particulars of Superstructures, Trunks, Casings, Deckhouses.

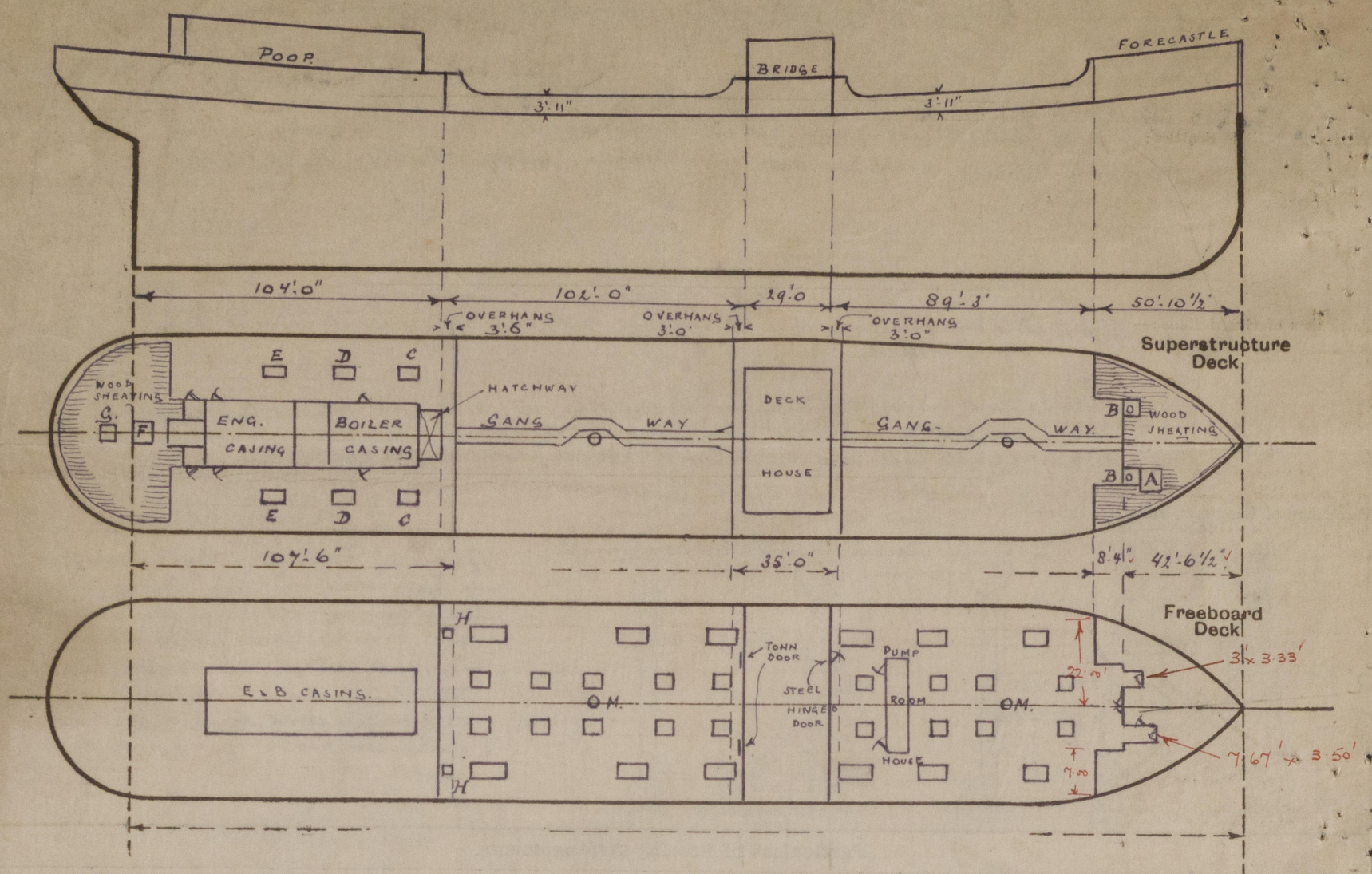
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ... ..	24 x .40	.36	9 x 5 1/2 x .60 BA	30"	backst. top & bottom	none	-	7' 11"
Raised Quarter Deck Bulkhead ...	✓							
Bridge, After Bulkhead ... ..	vertical plating .30		3" flanged plates	38"	none	5' 0 x 3' 6"	18	7' 11"
Bridge, Forward Bulkhead ... ..	24 x .46	.42	6 x 3 1/2 x .44 A	30	backst. top & bottom	5' 0 x 3' 6"	18	7' 11"
Forecastle Bulkhead ... ..	vertical plating .34		3" flanged plates	42	none	4' 6 x 4' 0 5' 0 x 2' 0	18	7' 11"
Trunk, Aft ... ..	✓							
Trunk, Forward ... ..	✓							
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	✓							
Exposed Machinery Casings on Superstructure Decks ... ..	.32	.30	3 1/2 x 3 x .36	24	backst. on top only	4' 6 x 2' 0	19"	7' 3"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	✓							
Deckhouses on Flush Deck Ships ...	✓							

## Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead ... ..	No openings -
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead ... ..	steel portable plates fastened with hookbolts $\frac{7}{8}$ " spaced 17" apart. -
Bridge, Forward Bulkhead ... ..	one steel hinged watertight door operated from outside only. - ✓ one steel hinged door beam doors to accommodate all operated from both sides. - ✓
Forecastle Bulkhead ... ..	✓
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓
Exposed Machinery Casings on Super-structure Decks ... ..	steel hinged doors operated from both sides. - ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	✓
Deckhouses on Flush Deck Ships ...	✓



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:—



The particulars for Convention freeboard have been obtained whilst the vessel was placed in drydock at this port. The vessel has at the same time been submitted for the Special Survey No 2.—

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

Small hatches on superstructure decks:

on forecastle deck — A. 4'4" x 4'0" coaming 32" x 40 closed with steel oil tight cover. 44 fastened with toggles 1 1/4" spaced 15"

B. 3'0" x 2'6" coaming 27" above steel deck, steel riveted top plate with bolted manhole cover.

on poop deck — C. 7'0" x 2'6" coaming 30"; hatches 2 1/2"; bearing 3 1/2"; cleats spaced 20"; 2 tarpaulins.

D. 7'6" x 2'6" " 30" " 2 1/2" " 3 1/2" " 20"; 2 "

E. 7'3" x 2'6" " 30" " 2 1/2" " 3 1/2" " 20"; 2 "

F. 3'0" x 3'0" " 12" above steel deck with leak skylight.

G. 2'6" x 2'6" " 9" Bulbangle; hatches 2 1/2"; cleats spaced 17"; 2 tarpaulins.—

on freeboard deck — H. 2'3" x 2'0" " 30" x 40 closed with steel oil tight cover. 40 fastened with toggles 1 1/8" spaced 12"

The hatchway 3'10 1/2" x 1'5" on fwd deck in forecastle situated behind steel doors has been fitted with a coaming 36" high, this hatchway serves as a counterway for steam and suction pipes and exhaust in forecastle closed effectively by 50.87 covers or battening arrangements.

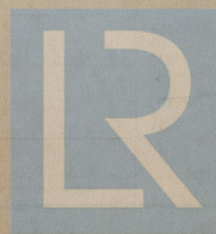
Recesses  $(3.00 \times 3.33) + (7.67 \times 3.50) = .84$  — 6.52  
 Remaining hatchways in fore-castle  
 Total are in accordance with Convention requirements  $8.33 \times 30.00 = 5.68'$  — 44.35 equiv.

Builder's name and yard number R. Duncan & Co Ltd. Port Glasgow.

Names of sister ships

Owners Voreda Steamship Co Ltd Gov. Harrison & Co Mgrs.

Fee of 100.00 will be Received by me DWuys



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