

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having *Poop, Bridge, and Forecastle Decks.*

(Type of Superstructures.)

Ship's Name **QUERCUS** Nationality and Port of Registry *British Liverpool* Official Number **149939** Gross Tonnage **4564** Date of Build **1927**

Moulded Dimensions: Length **384'-0"** Breadth **51'-75"** Depth **29'-0"**

Moulded displacement at moulded draught = 85 per cent. of moulded depth **11,040** tons

Coefficient of fineness for use with Tables **.789**

Port of Survey *London*

Date of Survey *15th & 20th June 1932*

Name of Surveyor *R. Blake*

Particulars of Classification **+ 100 A.1.**

Depth for Freeboard (D)

Moulded depth ... **29.0**

Stringer plate *86"* ... **.04**

Sheathing on exposed deck

$T \left(\frac{L-S}{L} \right) =$

Depth for Freeboard (D) = **29.04**

Depth correction

(a) Where D is greater than Table depth
(D - Table depth) R = **(29.04 - 25.60) 2.954 = 10.16**

(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) **51.75**

Standard Round of Beam = $\frac{B \times 12}{50} = 12.42$

Ship's Round of Beam = **13.0**

Difference **.58**

Restricted to

Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.58}{4} \times .507 = .07$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	33.42	33.42	7.9'		33.42
" overhang ...	✓		✓		
R.Q.D. enclosed ...	✓		✓		
" overhang ...	✓		✓		
Bridge enclosed ...	112.0'	112.0	7.9"		112.00
" overhang aft ...	✓		✓		
" overhang forward ...	✓		✓		
F'cle enclosed ...	44.1'	44.1	7.3"		44.10
" overhang ...	✓		✓		
Trunk aft ...	✓		✓		
" forward ...	✓		✓		
Tonnage opening aft ...	✓		✓		
" " forward ...	✓		✓		
Total ...	189.52	189.52			189.52

Standard Height of Superstructure **7.34**

" " R.Q.D.

Deduction for complete superstructure **40.93**

Percentage covered $\frac{S}{L} = 49.35$

" " $\frac{S_1}{L} = 49.35$

" " $\frac{E}{L} = 49.35$

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

Percentage from Table, Line B. **35.44**
(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = **14.50**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	48.40	1		48.40	64	64.0	1		64.00
$\frac{1}{6}$ L from A.P. ...	21.54	4		86.16	26.4	26.86	4		107.44
$\frac{2}{6}$ L " ...	5.32	2		10.64	6.34	6.71	2		13.42
Amidships ...	—	4		—	✓	✓	4		✓
$\frac{3}{6}$ L from F.P. ...	10.64	2		21.28	13.4	13.23	2		26.46
$\frac{4}{6}$ L " ...	43.07	4		172.28	53	52.93	4		211.72
F.P. ...	96.80	1		96.80	120	120.0	1		120.00
Total ...				435.56					543.04

Mean actual sheer aft = *Even*

Mean standard sheer aft

Mean actual sheer forward = *Even*

Mean standard sheer forward

Length of enclosed superstructure forward of amidships = **.145**

" " aft of " = **.145**

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{107.48}{18} (.75 - .2464) = -3.01$

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 = **29.04**

Summer freeboard = **5.37**

Moulded draught (d) = **23.67**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = **5.92 = 6"**

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 10,686$

Tons per inch immersion at summer load water line

T = **39.25**

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

= **6.81 = 6 $\frac{3}{4}$ "**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

Depth Correction ... **10.16**

Deduction for superstructures ... **14.50**

Sheer correction ... **3.01**

Round of Beam correction ... **.07**

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc. ...

+

-

10.16

14.50

3.01

.07

10.16

7.42

Summer Freeboard = **64.52**

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 " " ... **6**

Winter North Atlantic Line " " ...

Tropical Fresh Water Freeboard ...

Fresh Water " " ...

Tropical " " ...

Winter " " ... **5-10 $\frac{1}{2}$**

Winter North Atlantic " " ...

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
← Freeboard Deck → Bridge ← Freeboard Deck → Fore Deck →									
Description of Hatchway	1	2	3	3	4	5	16		
Dimensions of Hatchway	24'-9" x 19'-0"	28'-0" x 19'-0"	14'-0" x 19'-0"	14'-0" x 19'-0"	35'-0" x 19'-0"	15'-8" x 19'-0"	8'-6" x 5'-6"		
COAMINGS	Height above Deck	30"	30"	30"	9' x 3 1/2' x 50"	30"	30"	18"	
	Thickness Sides	.44"	.44"	.44"	.44"	.44"	.44"	.44"	
	Stiffeners	7" BA	7" BA	7" BA	BA	7" BA	7" BA	none	
	Brackets, Stays	2	2	none	1-3-2	2	2	none	
HATCH BEAMS	Number	4	5	2	2	6	5	none	
	Spacing	5'-0"	4'-8"	4'-8"	5'-0"	4'-3"	4'-3"	none	
	Scantling and Sketch	PL 17 x 36 angles 4 x 3 x 44	PL 16 1/2 x 36 angles 4 x 3 x 44	PL 15 1/2 x 36 angles 4 x 3 x 44	PL 16 1/2 x 36 angles 4 x 3 x 44	PL 17 x 36 angles 4 x 3 x 44	PL 15 1/2 x 36 angles 4 x 3 x 44	none	
	Bearing Surface	4"	4"	4"	3 1/2"	4"	4"		
FORE AND AFTERS	Number								
	Spacing								
	Unsupported Lengths								
	Scantling* and Sketch								
No fore & afters fitted.									
HATCH COVERS	Material	W.P.						W.P.	
	Thickness	2 1/2"						3"	
	How fitted	F&A						3"	
	Bearing Surface	3"						3"	
→ alternative 3"									
Spacing of Cleats		24"	24"	24"	24"	24"	24"		
Number of Tarpaulins		3	3	3	2	3	3		

*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? ☒

Particulars of fiddle, funnel and ventilator coamings:—

Fiddle gratings covered with strong hinged steel covers.
 Funnel sheet coamings in good condition.
 Engine skylight of steel strongly constructed.

Particulars of Flush Bunker Scuttles:—

None.

Particulars of Companionways:—

None.

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

3 - 17" dia Vents in Fore Well Coaming 3'-0" x 3/8" from Hold Space.
 2 - 17" " " afters " " 3'-0" x 3/8" " " " "
 2 - 9" " " afters " " 3'-0" x 5/16" " " " "
 2 - 17" " " Bunker 5" " 2'-6" x 3/8" " " " "
 1 - 6" " " Poop " 2'-6" x 3/16" " " " "
 1 - 5" " " Forecastle " 10" x 5/16" " " " "
 closed with wood plugs and Canvas covers.
 Bunkers Hold Space Fore Peak

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

2 - 3" C.I. Air Pipes in Fore Well led to double Bottom 2'-2" high
 6 3 " " " afters " " 2'-6" " "

all air Pipes closed by wooden plugs.

Particulars of Gangway Cargo and Coaling Ports:—

NONE

Particulars of Scuppers and Sanitary Discharge Pipes:—

Scuppers Below Freeboard beam fitted with gunmetal storm valves at ship side and efficient lumps at inner end.

Particulars of Side Scuttles:—

No side scuttles fitted below freeboard beam.

Particulars of Guard Rails:—

on Forecastle 5" 3'-2" high, having 2 rods, with stanchions 5'-0" apart.
 " Bridge " 3'-2" " " 3 " " 4'-8" "
 " Poop " 3'-0" " " 2 " " 4'-8" "

Particulars of Gangways, Lifelines, etc.:—

No Gangways.
 No permanent fittings to lifelines.
 Crew berthed in Forecastle.

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'-6"	4'-0"	4'-0" x 1'-6"	4	24.0	20.6
Forward Well	92'-0"	4'-0"	4'-0" x 1'-6"	3	18.0	18.4

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

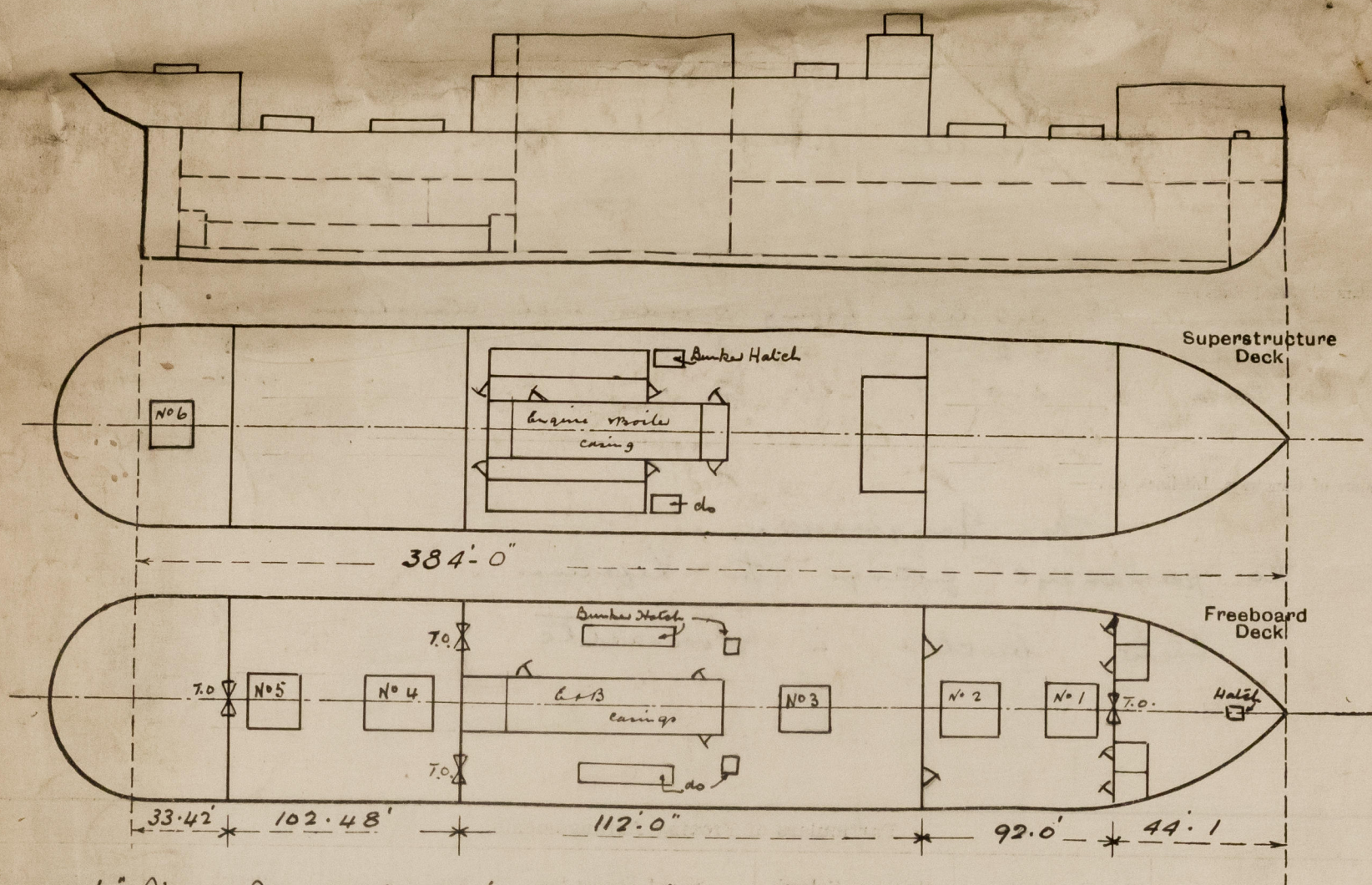
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	5/16"	5/16"	6" x 3" x 3/8" L	30"	Lugs	12' 6.0" x 4'-0"	18"	7'-9"
Raised Quarter Deck Bulkhead	✓	✓	✓	✓	✓	✓	✓	✓
Bridge, After Bulkhead	1/4"	1/4"	3" x 3" x 1/2"	30"	none	22' 6.0" x 4'-0"	18"	7'-9"
Bridge, Forward Bulkhead	3/8"	3/8"	9' x 3" x 3/8" BA	30"	Lugs	22' 6.0" x 2'-6"	18"	7'-9"
Forecastle Bulkhead	5/16"	5/16"	3" x 3" x 1/2"	23"	none	12' 5.16" x 3'-6"	18"	7'-3"
Trunk, Aft	✓	✓	✓	✓	✓	42' 4.11" x 2'-0"	18"	7'-3"
Trunk, Forward	✓	✓	✓	✓	✓	✓	✓	✓
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	✓	✓	✓	✓	✓	✓	✓	✓
Exposed Machinery Casings on Superstructure Decks	3/8"	5/16"	3" x 3" x 5/16"	32"	continuous	22' 4.11" x 2'-0"	18"	7'-3"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	3/8"	5/16"	3" x 3" x 5/16"	32"	"	12' 4.11" x 2'-6"	19"	7'-9"
Deckhouses on Flush Deck Ships	✓	✓	✓	✓	✓	22' 2.0" x 2'-0"	2'-9"	7'-9"

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

Poop Bulkhead	Tonnage opening. battens carried full height in vertical steel channels
Raised Quarter Deck Bulkhead	✓
Bridge, After Bulkhead	Two Tonnage openings. battens carried full height in Vert Steel channels
Bridge, Forward Bulkhead	Two hinged steel doors operated from one side only.
Forecastle Bulkhead	One Tonnage opening. battens carried full height in vertical steel channels.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	Two hinged wood doors & two hinged steel doors operated from both sides.
Exposed Machinery Casings on Superstructure Decks	2 hinged steel doors. operated from both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	3 hinged steel doors operated from both sides.
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 shewn on the following sketches:—



• $\frac{1}{2}$ " Pitch Pine sheathing on Forecastle bulk.
No sheathing on Freeboard, Bridge or Poop bulks.

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

- | | | | |
|---|-----------------------------------|--|---------|
| 1 | Hatch in Forecastle to Fore Peak. | 3'-10" x 2'-11" - 9" BA craming wood covers, cleats, | |
| 2 | " " Bridge space. Bunker | 21'-0" x 3'-0" - 9" | " " " " |
| 2 | " " " " " | 3'-0" x 3'-0" - 9" | " " " " |
| 1 | " on Bridge bulk | 9'-0" x 2'-10" - 2'-6" | " " " " |
- 2 tarpaulins
" "
" "

This vessel was surveyed afloat. Survey confined to freeboard.

Builder's name and yard number Lithgows Ltd, Port Glasgow, N° 793.

Names of sister ships

Owners Arbor Shipping Co Ltd.

Fee £ 12 : 15 : 0 Received by me

22/6/32



© 2020

Lloyd's Register
Foundation