

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. **34327**
(For London Office only.)

15 MAR 1933

GREENOCK REPORT N° 19524.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Poop, Bridge & Lock (Disconnected)Port of Survey Greenock

(Type of Superstructures.)

Date of Survey While building

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
"HARBLEDOWN"	BRITISH LONDON.	163338	5413.52	1933.

Name of Surveyor R. D. D. D. D.

Moulded Dimensions: Length 426'0" Breadth 56'0" Depth 28'75"
 Moulded displacement at moulded draught = 85 per cent. of moulded depth 124.84 tons
 Coefficient of fineness for use with Tables 750

Particulars of Classification 100A1
(Contemplated)

Depth for Freeboard (D)		Depth correction		Round of Beam correction.	
Moulded depth	28' 9"	(a) Where D is greater than Table depth (D - Table depth) R = (28.79 - 28.40) 3.00		Moulded Breadth (B)	56'
Stringer plate	0.55			Standard Round of Beam = $\frac{B \times 12}{50} = 13.44$	
Sheathing on exposed deck		(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	14"
T $\left(\frac{L-S}{L}\right) = N/L$	✓			Difference	56" excess
Depth for Freeboard (D) =	28.79	If restricted by superstructures ✓		Restricted to	
				Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{56}{4} \times .1814 = -10.3$	

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	40.66	40.66	8' 6"		40.66
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed	270.2	270.20	9' 0"		270.20
" overhang aft					
" overhang forward					
F'cle enclosed	37.88	37.88	8' 6"		37.88
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	348.74	348.74			348.74

Standard Height of Superstructure 7.50'
 " " R.Q.D. ✓
 Deduction for complete superstructure 42.00"
 Percentage covered $\frac{S}{L} = 81.86\%$
 " $\frac{S_1}{L} = 81.86\%$
 " $\frac{E}{L} = 81.86\%$
 Percentage from Table, Line A.
 (corrected for absence of forecastle (if required))
 Percentage from Table, Line B. 77.61%
 (corrected for absence of forecastle (if required))
 Interpolation for bridge less than 2L (if required)
 Deduction = 42.00 × .7761 = -32.59"

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P.	52.60	1	52.60	66.0	66.00	1	66.00
1/4 L from A.P.	23.41	4	93.64	29.25	29.25	4	117.00
3/4 L "	5.79	2	11.58	7.25	7.25	2	14.50
Amidships	✓	4	✓	0	✓	4	✓
3/4 L from F.P.	11.57	2	23.14	14.5	14.50	2	29.00
1/4 L "	46.81	4	187.24	58.0	58.00	4	232.00
F.P.	105.20	1	105.20	132.0	132.00	1	132.00
Total			473.40				590.50

Correction = $\frac{\text{Difference between sums of products}}{18} \left(75 - \frac{S}{2L}\right) = \frac{117.10}{18} \left(75 - .4093\right) = -2.22"$

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.

Deduction for Fresh Water.

TABULAR FREEBOARD corrected for Flush Deck (if required)

Ft.
 Depth to Freeboard Deck = 28.79
 Summer freeboard = 4.17
 Moulded draught (d) = 24.62

Displacement in salt water at summer load water line
 $\Delta = 12719$
 Tons per inch immersion at summer load water line
 $T = 47.37$

Correction for coefficient

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = $6.15 = 6 \frac{1}{4}$ "
 Addition for Winter North Atlantic Freeboard (if required) = ✓

Deduction = $\frac{\Delta}{40T}$ inches
 $= \frac{12719}{40 \times 47.37} = 6 \frac{3}{4}$ "
 FULL DISPLACEMENT (S.W.) T.R.I.
 24 FT DRAUGHT 12257 47.17
 25 FT " 12826 47.42

Depth Correction ... 1.17 -
 Deduction for superstructures ... 32.59 -
 Sheer correction ... 2.22 -
 Round of Beam correction03 -
 Correction for Thickness of Deck amidships ... -
 Other corrections, scantlings, etc. ... -

79.66
 83.76
 1.17 34.84 - 33.67
 Summer Freeboard = 50.09

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

Tropical Fresh Water Line above Centre of Disc ... 13"
 Fresh Water Line " " ... 6 1/4"
 Tropical Line " " ... 6 1/4"
 Winter Line below " " ... 6 1/4"
 Winter North Atlantic Line " " ... ✓

Tropical Fresh Water Freeboard ... 3' 1"
 Fresh Water " " ... 3' 7 1/4"
 Tropical " " ... 3' 7 3/4"
 Winter " " ... MARKING FORM
 Winter North Atlantic " " ... 22 APR 1933

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
UPPER DECK					BRIDGE DECK.					
Description of Hatchway	N°1 HATCH	N°2 HATCH	(DIVIDED) N°3 HATCH	N°4 HATCH	N°5 HATCH	N°2 HATCH	(DIVIDED) N°3 HATCH	N°4 HATCH	COAL HATCH AT FORE END OF I & B. CASING	HATCH ON FOCLE
Dimensions of Hatchway	29'3" x 24'0"	32'1" x 24'0"	12'10'2 1/2" x 24'0"	36'8" x 24'0"	32'1" x 24'0"	32'1" x 20'0"	12'11'5 1/2" x 20'0"	36'8" x 20'0"	4'0" x 18'0"	4'0" x 3'0"
COAMINGS	Height above Deck	46"	B.A.	B.A.	46"	36"	36"	36"	36"	30"
	Thickness	44"	12 x 3 1/2 x 50	12 x 3 1/2 x 50	44"	44"	44"	44"	44"	36"
	Stiffeners	B.A.	✓	✓	✓	✓	✓	✓	✓	36"
	Brackets, Stays	2 x 3 1/2 x 40	✓	✓	3 x 2 1/4 DIA	3 x 2 1/4 DIA	✓	3 x 2 1/4 DIA	✓	3 HATCH COVER.
HATCH BEAMS	Number	6	6	1 IN EACH	7	6	1 IN EACH	7	COAL HATCH P&S ABREAST BOILER CASING	HATCH UNDER IN FOCLE
	Spacing	4'2" & 4'3"	4'7"	5'1 1/4" & 4'7"	4'7"	4'7"	5'8 3/4"	4'7"	18'4" x 5'0"	4'0" x 3'0"
	Scantling and Sketch	17 1/2" x 36"	19 1/2" x 38"	12 21 1/2" x 39"	19 1/2" x 38"	18 3/4" x 37"	13" x 32"	15 1/4" x 34"	13" x 32"	18'4" x 5'0"
	Bearing Surface	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"
FORE AND AFTERS	Number								COAL HATCH P&S ABREAST BOILER CASING IN BRIDGE SPACE.	TRIMMING HATCHES 12 IN BRIDGE SPACE.
	Spacing								24'11 1/2" x 5'0"	1 IN FOCLE COAMINGS
	Unsupported Lengths								12 x 3 1/2 x 50 BA	12 x 3 1/2 x 50 BA
	Scantling* and Sketch								3" COVERS WITH FITTED ATHW	3" COVERS WITH 3" BEARING SURFACE
HATCH COVERS	Material									
	Thickness									
	How fitted									
	Bearing Surface									
Spacing of Cleats										
Number of Tarpaulins										
*Are wood fore and afters steel shod at all bearing surfaces? ✓										
Are battens and wedges efficient and in good condition? YES. ✓										
Are tarpaulins in good condition and in accordance with rule requirements? YES. ✓										
Are lashings provided in accordance with rule requirements? YES. ✓										

Particulars of fiddle, funnel and ventilator coamings:—

Engine Room Skylight of steel strongly constructed.
Fidley gratings fitted with hinged steel covers.
Fidley, Funnel & Ventilators in efficient condition.

Particulars of Flush Bunker Scuttles:—

None.

Particulars of Companionways:—

Steel House on Poop Deck with 1 3/4" Solid teak door P&S
& with 18" sill. Doors workable from both sides.

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

Foyle D⁵ 1 Vent 10" dia. Coaming 36" x 32 to fore peak store.
Well Forward & also well aft. 2 Vents 21" dia. Coamings 36" x 40 to holds; Bridge D⁵ 2 Vents 27" dia. & 2 Vents 21" dia. Coamings 36" x 40,
also 3 Vents 27" dia. & 2 Vents 21" dia. Coamings 30" x 40 to holds; 4 Vents 13" dia. Coamings 30" x 34 to lower tween deck bunkers.
4 Bowsneck Vents M1. 6" dia. & 30" high to lower bunkers; Poop Deck. 2 Vents 12" dia. Coamings 30" x 34 to tunnel escape & to poop.
4 Vents 9" dia. Coamings 30" x 32 to crew's quarters.
All ventilators constructed in accordance with the Rules, & coamings closed with wood plugs & canvas covers.

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

Foyle D⁵ 1 M1 Air Pipe 18" x 3 1/2" dia. to fore peak tank; 1 M1 Air Pipe 18" x 6" dia. to Double Bottom; Bridge D⁵ 4 M1 Air Pipes 18" x 5" dia. to S. B.
Tanks P&S; 1 M1 Air Pipe 18" x 3 1/2" dia. to S. B. Tanks P&S; Poop D⁵ 1 M1 Air Pipe 18" x 3 1/2" dia. to after Peak Tank P&S; 1 M1 Air Pipe
36" x 3 1/2" dia. (P) in after well to S. B. Tank; No Air Pipes in forward well.
All Air Pipes fitted with wood plugs.

Particulars of Gangway Cargo and Coaling Ports:—

None.



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Particulars of Scuppers and Sanitary Discharge Pipes — Scuppers from Poop, Bridge & Fore Space fitted with storm valves & wood plugs on inner ends. Discharges from Baths, W.C. & Wash Basins in Midship House & in Poop House fitted with storm valves & having traps on inner ends. Scupper from insulated store in Bridge Space fitted with storm valve & having screw cap on inner end.

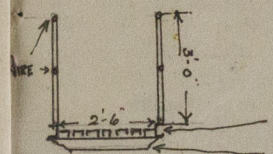
Particulars of Side Scuttles:

No side scuttles below Freeboard Deck.
No side scuttles in Bridge Space.
Side Scuttles in Poop & in Fore strongly constructed & fitted with deadlights.

Particulars of Guard Rails:—

Fore D^{ck} 3'-3" high with 2 rods & stanchions spaced 5'-0" apart.
Bridge D^{ck} 4'-0" high with 3 rods & having stanchions spaced 5'-0" apart at fore-end & after-end, with Bulwark Amidships 4'-0" high, having 3 freeing ports each side 3'-6" x 1'-6" (15 ft) with bar fitted. (Rule 14 ft).
Poop D^{ck} 3'-3" high with 2 rods & stanchions spaced 5'-0" apart.

Particulars of Gangways, Lifelines, etc.:—



Gangway fitted aft from Bridge Deck to Poop Deck.
Stanchions spaced 5'-0" apart. Platform 5' x 2 1/2 P.P.
4 x 2 1/2 x 2 1/2 x 50 Channel.
3 x 3 x 40 Angle spaced 5'-0" with diagonal bracing.
Suitable provision made for rigging lifelines in any part of the ship used by the crew in the regular working of the ship.

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	41' - 3"	4' - 0"	4' - 0" x 9"	4	12' - 0" $\frac{1}{2}$	10' - 63 $\frac{1}{2}$
Forward Well	36' - 0"	4' - 0"	4' - 6" x 9"	3	10' - 12 $\frac{1}{2}$	10' - 1 $\frac{1}{2}$

State position of each freeing port } After Well:— 12'-4", 17'-10", 24'-0", 30'-0" from Bridge-end to fore end of openings.
(F. and A. position and height above deck edge) } Forward Well:— 9'-0", 14'-8", 20'-8" from Bridge-end to aft end of openings. } 13' above deck.
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.

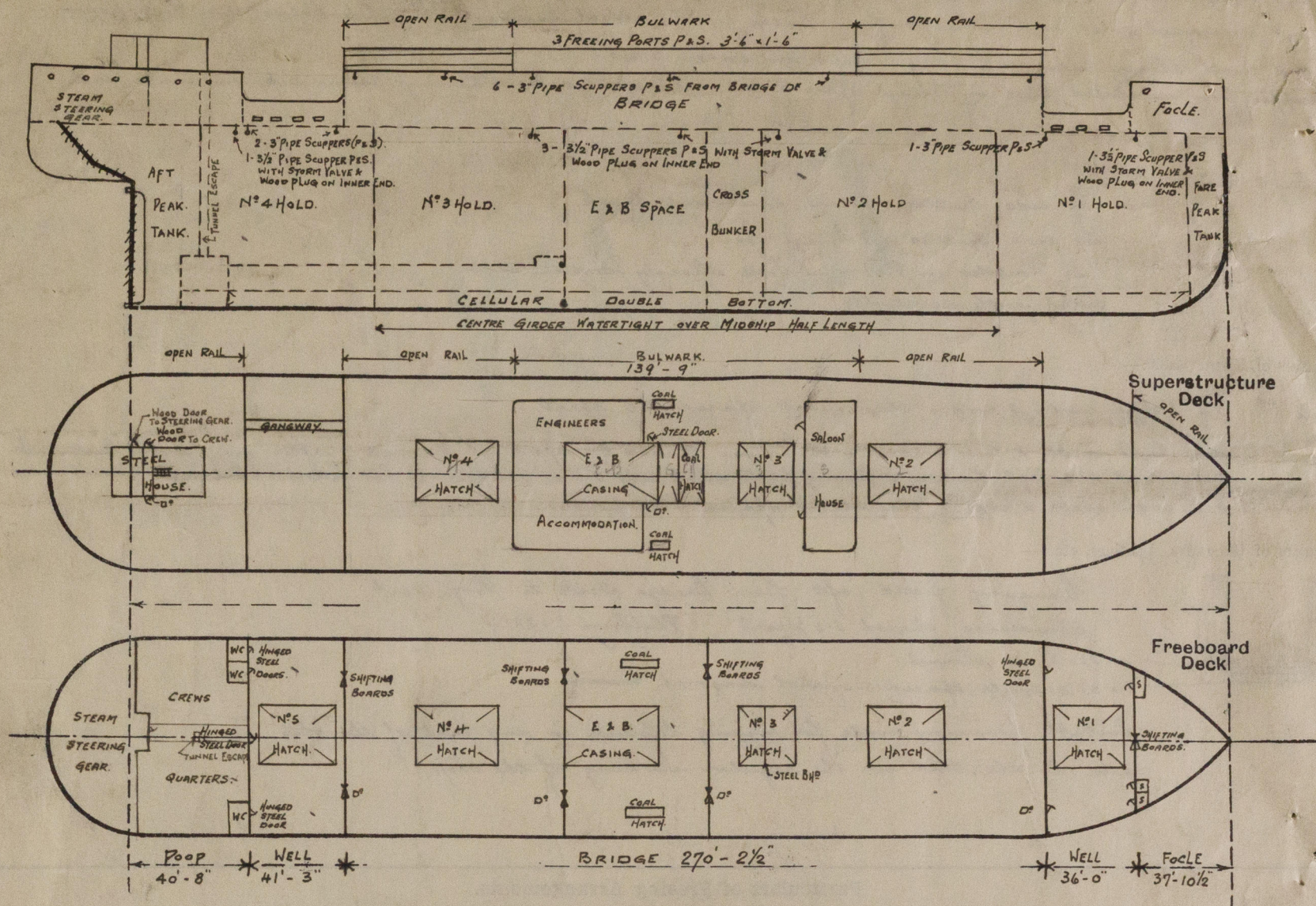
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	38	38	B. A. 7 x 3 x 38	2' - 5"	LUGGED. 4 - 3/4 R.	5' - 0" x 2' - 0"	18"	8' - 6"
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead	30	30	ANGLE 4 x 3 x 32	2' - 6"	NONE	5' - 0" x 4' - 0"	18"	9' - 0"
Bridge, Forward Bulkhead	44	44	B. A. 9 1/2 x 3 1/2 x 46	2' - 6"	LUGGED. 5 - 3/4 R.	4' - 6" x 3' - 3"	18"	9' - 0"
Forecastle Bulkhead	30	30	ANGLE 4 x 3 x 32	2' - 3" to 3' - 0"	NONE	5' - 0" x 2' - 0" 5' - 0" x 4' - 0"	18"	8' - 6"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	34	30	ANGLE 3 x 3 x 30	2' - 6"	BRACKETED AT TOP	5' - 0" x 2' - 0"	18"	8' - 0"
Exposed Machinery Casings on Superstructure Decks	30	26	ANGLE 3 x 3 x 30	2' - 6"	NONE	5' - 0" x 2' - 0"	18"	9' - 0"
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	4 Hinged steel doors, workable from both sides.
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead	3 Shifting boards, full height of openings, fitted in channels pivoted to bulkhead.
Bridge, Forward Bulkhead	Hinged steel doors, secured with clips & workable from both sides.
Forecastle Bulkhead	3 Shifting boards, full height of openings, fitted in channels pivoted to bulkhead; (At Centre line); 2 Solid wood hinged doors, & 1 Steel hinged door, workable from both sides.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	
Exposed Machinery Casings on Superstructure Decks	Hinged steel doors, workable from both sides. ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Hinged steel doors, workable from both sides. ✓
Deckhouses on Flush Deck Ships ...	

U405-0223(2/2)

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:—



State any special features in the construction of the ship:— This vessel has been built in accordance with the Approved Plans & in general conformity with the Society's Rules for the class contemplated. The vessel is to be engaged on International Trade & a Timber Freeboard is also requested. The Approved Plans of Midship Section, Profile & Decks & Hatches are forwarded herewith for reference, together with a sketch showing Builder's proposals for timber requirements. Freeboard Request attached.

Timber Freeboard requirements:—

Double Bottom Tanks over midship half length of vessel subdivided. ✓
Steel Bulwark in wells 4'-0" high x 5/16" with 6 x 3 x 35 BA rail bar, supported with 7 x 35 B.P. stays spaced 6'-0" apart. Stays not on beams. ✓
Steam steering engine in Poop Space and operated by telemotor. ✓
Emergency gear fitted & operated by relieving tackle led to warping winch on Poop Deck. ✓
Eyeplates for lashings & sockets for supports as per sketch (in duplicate) forwarded. ✓
Plan of sockets & supports attached. ✓

Builder's name and yard number

Lithgows Limited N° 861.

Names of sister ships

"HARMATRIS" "HARMANTEN" "HARBOROUGH" "HARLINGEN" "HARDINGHAM"

Owners

J & C Harrison & Co.

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