

Rpt. C.11.

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. 257466
(For London Office only.)

-6 JUL 1932

GLASGOW REPORT No. 52697

Computation of Freeboard for Steamer, ~~Cargo Ship, Tanker~~
having **POOP, BRIDGE & FORECASTLE**

Port of Survey **GLASGOW.**

Date of Survey **4TH JULY 1932.**

Name of Surveyor **D. TURNER.**

Particulars of Classification **+ 100 A.1.**
S.S. Ind. No. 3-4, 30

Ship's Name

"MAHSUD"

(Type of Superstructures.)

Nationality and Port of Registry
BRITISH
LIVERPOOL

Official Number
140,553.

Gross Tonnage
7578
4540
4547

Date of Build
1914-12.

Moulded Dimensions: Length **469.2'** Breadth **58.0'** Depth **34.10'**
Moulded displacement at moulded draught = 85 per cent. of moulded depth **19,661** tons
Coefficient of fineness for use with Tables **.467**

Depth for Freeboard (D)

Moulded depth ... **34.92'**
Stringer plate **4 1/2"** ... **.04**
Sheathing on exposed deck
 $T \left(\frac{L-S}{L} \right) =$
Depth for Freeboard (D) = **34.87'**

Depth correction

(a) Where D is greater than Table depth
(D-Table depth) R =
 $(34.87 - 31.28) \times 3 = 10.77$
(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) **58.0'**
Standard Round of Beam = $\frac{B \times 12}{50} = 13.92$
Ship's Round of Beam = **14 1/2 inches.**
Difference **EXCESS .58**
Restricted to
Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L_1} \right) = \frac{.58^2}{4} \times .5407 = .08$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ... EQUIV.	45.06	45.06	8'-0"	-	45.06
" overhang ...	.80	.80	8'-0"	-	.80
R.Q.D. enclosed ...	118.87	118.87	8'-0"	-	118.87
" overhang ...	5.29	5.29	8'-0"	-	5.29
Bridge enclosed ... EQUIV.	45.50	45.50	8'-0"	-	45.50
" overhang aft ...	5.29	5.29	8'-0"	-	5.29
" overhang ...	45.50	45.50	8'-0"	-	45.50
F'cle enclosed ...	218.08	218.08	8'-0"	-	218.08
" overhang ...	215.52	215.52	8'-0"	-	215.52
Trunk aft ...	215.52	215.52	8'-0"	-	215.52
" forward ...	215.52	215.52	8'-0"	-	215.52
Tonnage opening aft ...	215.52	215.52	8'-0"	-	215.52
" forward ...	215.52	215.52	8'-0"	-	215.52
Total ...	218.08	215.52	8'-0"	-	215.52

Standard Height of Superstructure **7.50**
" " R.Q.D. **✓**
Deduction for complete superstructure **42.00**
Percentage covered $\frac{S}{L} = 46.48$
" " $\frac{S_1}{L} = 45.93$
" " $\frac{E}{L} = 45.93$
Percentage from Table, Line A.
(corrected for absence of forecastle (if required))
Percentage from Table, Line B. **32.54**
(corrected for absence of forecastle (if required))
Interpolation for bridge less than 2L (if required) **✓**
Deduction = $.3254 \times 42 = 13.67$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	56.92	1	56.92	68	68.00	68.00	1	68.00	68.00
1/4 L from A.P. ...	25.33	4	101.32	29	30.02	30.02	4	120.08	120.08
1/2 L " ...	6.26	2	12.52	7	7.49	7.49	2	14.98	14.98
Amidships ...	-	4	-	-	-	-	4	-	-
3/4 L from F.P. ...	12.52	2	25.04	14	14.77	14.77	2	29.54	29.54
1/4 L " ...	50.66	4	202.64	60	59.25	59.25	4	237.00	237.00
F.P. ...	113.84	1	113.84	132	132.00	132.00	1	132.00	132.00
Total ...	512.28	18	512.28	218	215.52	215.52	18	601.60	601.60

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{89.32}{18} \left(.75 - \frac{215.52}{469.2} \right) = (-) 2.57$

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.

Ft.
Depth to Freeboard Deck = **34.87**
Summer freeboard = **7.79**
Moulded draught (d) = **27.08**

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = **6.77**
Addition for Winter North Atlantic Freeboard (if required) = **6 3/4**

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta = 16204$
Tons per inch immersion at summer load water line
 $T = 53.67$
Deduction = $\frac{\Delta}{40T}$ inches = **7.55**

TABULAR FREEBOARD corrected for Flush Deck (if required)
Correction for coefficient $\frac{.467 + .68}{1.36} = \frac{1.147}{1.36}$

	+	-
Depth Correction ...	10.77	-
Deduction for superstructures ...	13.67	-
Sheer correction ...	2.57	-
Round of Beam correction ...	.08	-
Correction for Thickness of Deck amidships ...	-	-
Other corrections, scantlings, etc. ...	-	-
Summer Freeboard =	93.45	-

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, **2375** - **4' - 9 1/2"**

Tropical Fresh Water Line above Centre of Disc ... **14 1/2** ... **362** mm Tropical Fresh Water Freeboard ... **2013** - **6' - 4 1/4"**
Fresh Water Line " " ... **4 1/2** ... **190** mm Fresh Water " " ... **2185** - **4' - 2"**
Tropical Line " " ... **6 1/2** ... **171** mm Tropical " " ... **2204** - **4' - 2 3/4"**
Winter Line below " " ... **6 1/2** ... **171** mm Winter " " ... **2546** - **8' - 4 1/4"**

28 JUL 1932

5m3.32.

MARKING FORM
RECEIVED

MARKING FORM
RECEIVED

Lloyd's Register
RECEIVED

Maksud

Particulars of fiddley, funnel and ventilator coamings :—

Particulars of Flush Bunker Scuttles:—

Particulars of Companionways :—

None.

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

Aspen on upper decks.			
Ventilator on Forecastle Deck	12	dia. - 26"	F.P. Store.
Upper Deck in Fore.	6	" 24"	
" " " " " "	24	" 36"	Boats.
" " " " " "	24	" 36"	" "
Bridge Deck	24	" 36"	" "
" " " " " "	18	" 24"	Bunkhouse.
Upper Deck After Well.	12	" 36"	" "
" " " " " "	18	" 26"	" "
" " " " " "	18	" 26"	" "
Ventilator on Loop Deck	9 1/2	dia. - 28"	to brass spaces.
" " " " " "	10	" 32"	" "
" " " " " "	5	" 6"	" "
" " " " " "	8 1/2	" 40"	S.G. House
" " " " " "	12	" 26"	A.P. Store
" " " " " "	18	" 26"	Tunnel.

102	36" x 32"	protected the fittings and closed with wood plugs and canvas covers
241	24" x 32"	
242	24" x 32"	
243	36" x 32"	

Particulars of Air Pipes in exposed positions on foreboard raised above the gunwale as follows:

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

C.I. Air pipe on Forecastle Deck $8\frac{1}{2}$ " high x $3\frac{1}{2}$ " dia. from F.P. Tank
W.L. " " " "

Upper St. (Sand hills) 10' " 2' " " " " " D.B. Fank

$\left\{ \begin{array}{l} 11 \\ 12 \end{array} \right\} 21427''$ $2''$ $\left\{ \begin{array}{l} 11 \\ 12 \end{array} \right\} 6''$ $2''$

[illegible][illegible]


upper 10' (upper well)	32"	2"
" " " "	25"	2"

particulars of ~~"Gangway Cargo and Coaling"~~ Ports:—

2 boaling Ponto (1 p. & 1 s.) in Bridge side blatin

instructed and watertight; secured by clips

4122116



Particulars of Scuppers and Sanitary Discharge Pipes :—

6 sanitary Discharge Pipes from Officers' (2) and Engin's (1) W.C. on Bridge Deck and from P.O.'s W.C. (2) on Foreland Deck.
12 sanitary Discharge Pipes from Ensign's W.C. on Fore Deck and fitted to ship's sides with storm valves.
Deck W.C.s on Foreland Deck in Bridge and poop spaces discharge thru' shells below Foreland Deck and fitted at ship's sides with storm valves and inner ends closed with bolted plate covers.
Sanitary from Kitchens on Fore Deck and from Engin's Bath on Bridge discharge thru' shells below Fore Deck and are fitted at ship's sides with storm valves.
Officers W.C., Partry, Galley and Engin's W.C.s discharge thru' shells in Bridge spaces above Fore Deck. No storm valves fitted.

Particulars of Side Scuttles:—

There are no Side Scuttles fitted below the Greenboard Deck. ✓
Side Scuttles in Poop and Forecastle, 9" dia. fitted with hinged dead lights.

Particulars of Guard Rails :—

Guard rails on Loop, Bridge and Forecastle, 3' 8" high, 3 rods and stanchions spaced 4' 9" to 5' 6" apart.

Particulars of Gangways, Lifelines, etc. :—

~~None fitted~~

Suitable lifelines provided for use of the crew
on the regular working of the ship.

	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
Aster Well	126'-0"	4'-0"	<div style="text-align: center;"> <p>2' x 1' 8"</p> </div> 1 @ 2'-2" x 1'-4". 1 @ 2'-4" x 1'-2" 1 @ 2'-0" x 1'-5" & 1 @ 2'-3" x 1'-8" <i>also 6 oval holes in after gangway about each 2'-0" x 1'-0"</i>		26.00. 23.50 22-30	24.20
Forward Well	130'-0"	4'-0"	1 @ 2'-1" x 1'-6". 1 @ 2'-3" x 1'-5". 1 @ 2'-5" x 1'-4". 1 @ 3'-1" x 2'-0". and 1 @ 2'-2" x 1'-4". <i>1'-0" x 2'-0" + 2'-0"</i>	5	20.50 20-yo ft. 28-99.	26.-

State position of each freeing port ... After Well: — (from Deck edge) ... }
(F, 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: — All ports fitted with hinged shutters and 2 inch iron.

[Except 2 in fore well which are open and fitted with 3 vert. and 1 horz. rods. (6 oval holes in after well open with 1 rod. at stern deck edge = 2)

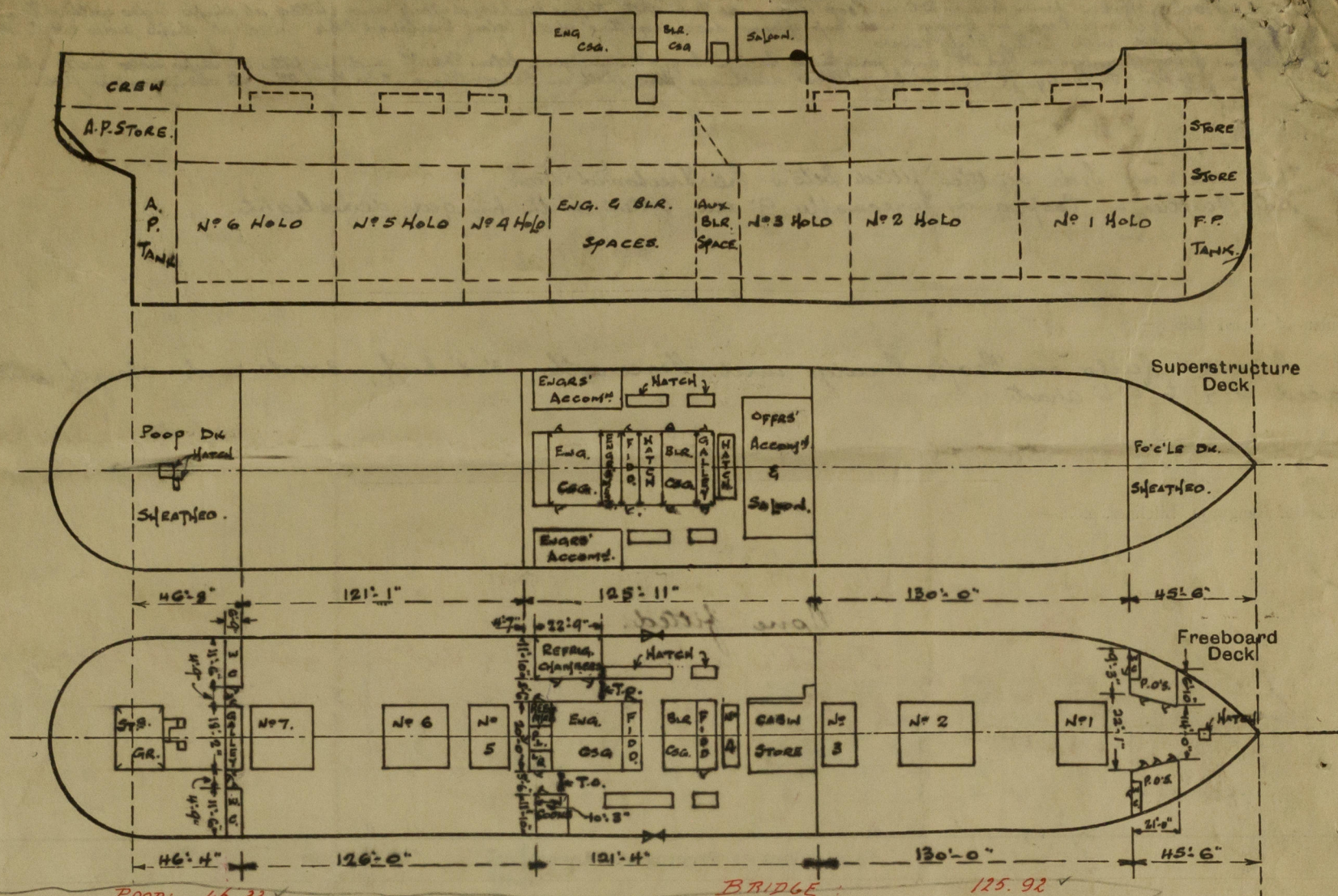
Additional area where sheer is less than standard.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	42"	32"	4" x 3 1/2" x 40"	30"	None.	5' 11" x 2' 1"	18"	8' 0"
Forward Quarter Deck Bulkhead ...	✓	✓	✓	✓	✓	✓	✓	✓
Bridge, After Bulkhead	None.	28"	3" x 3" x 30"	36"	None.	6' 0" x 5' 6"	24"	8' 0"
Bridge, Forward Bulkhead	42"	34"	BA. 9" x 3 1/2" x 56"	30"	Bkts. top 5 bottom.	5' 4" x 3' 0"	18"	8' 0"
Forecastle Bulkhead	None.	26"	3" x 3" x 30"	25"	None.	5' 4" x 2' 0"	18"	8' 0"
Trunk, Aft	✓	✓	✓	✓	✓	✓	✓	✓
Trunk, Forward	✓	✓	✓	✓	✓	✓	✓	✓
Exposed Machinery Casings on Free-board Forward Quarter Deck ...	46"	28"	4" x 3 1/2" x 40"	32 1/2"	None	4' 6" x 2' 4"	18"	8' 0"
Exposed Machinery Casings on Superstructure Decks	50"	36"	4" x 3 1/2" x 40"	32 1/2"	Bkts. at top.	5' 0" x 2' 3"	18"	8' 0"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	46"	28"	4" x 3 1/2" x 40"	32 1/2"	None.	4' 6" x 2' 3"	18"	8' 0"
Deckhouses on Flush Deck Ships ...	✓	✓	✓	✓	✓	✓	✓	✓

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

Poop Bulkhead	...	...	1 3/4" Solid teak wood doors, capable of being manipulated from both sides.
Raised Quarter Deck Bulkhead	...	✓	
Bridge, After Bulkhead	...	...	3" thk. shifting boards in channels (rivetted to bldg) for full height of opening.
Bridge, Forward Bulkhead	...	...	Hinged steel weathertight door, operated one side only.
Forecastle Bulkhead	...	...	Teak wood doors 1 1/2" thk., operated from both sides.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	...	...	Steel hinged door operated both sides.
Exposed Machinery Casings on Superstructure Decks	...	...	Hinged steel doors to ladder basing, operated both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...	...	1 3/4" thk. teakwood hinged doors to engine basing, operated both sides.
	...	...	Hinged steel doors, operated both sides.
Accesses 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:—



POOP: 46.33
 DEDUCT $4.75 \times 6.75 = 1.24$
 $1.24 + .33 = 1.60$ O.K.
 25.33
 45.06

BRIDGE: 125.92
 $4.58 \times 11.83 \times 2 = 108.36$
 $27.33 \times 5.50 = 150.31$
 $20.00 \times 2.25 = 45.00$
 $14.83 \times 5.50 = 81.56$
 385.23
 54.67
 7.05 O.K.
 118.87

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

Timber freeboard is not required.

Full displacement at 26'-0" full draught = 15,349 tons. Tons per inch = 53.50.
 " " " 27'-0" " = 16,024 " " " = 53.66.
 " " " 28'-0" " = 16,644 " " " = 53.70.

This Survey has been held afloat and confined to an examination of the means for closing the openings in the deck and sides of the ship.

No part of a Special Survey has been held at this time.

Builder's name and yard number Russell & Co. Port Glasgow

Yard No 696.

Names of sister ships "Maihar".

Owners The & Jno. Brocklebank Ltd.

Fee £ 15 : 6 : 0

Received by me

at rendered by 22/7/32



© 2020

Lloyd's Register Foundation