

Lloyd's Register of Shipping.  
SURVEYS FOR FREEBOARD.

GLASGOW REPORT No. 52918

Computation of Freeboard for Steamer, Sailing Ship, Tanker

Poop, Bridge and Forecastle

Port of Survey Glasgow

(Type of Superstructures.)

Date of Survey 20<sup>th</sup> September 1932

Ship's Name

Nationality and Port of Registry

Official Number

Gross Tonnage

Date of Build

CIT OF RANGOON

British

135582

6635

1914

L.A. 22/8

Liverpool

6 months

Name of Surveyor Norman Dobson

Moulded Dimensions: Length 443.0 / Breadth 55.0 / Depth 34.0

Moulded displacement at moulded draught = 85 per cent. of moulded depth 15790 tons

Coefficient of fineness for use with Tables .786

Particulars of Classification +100 A1

S.S. H.K. No. 3-9-26

S.S. H.K. No. 1-30

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... 34.0	(a) Where D is greater than Table depth (D - Table depth) R = (34.04 - 29.53) 3 = +13.53	Moulded Breadth (B) 55.0
Stringer plate ... .50	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = 13.20$
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = 13.2 inches
Depth for Freeboard (D) = 34.04		Difference .30
		Restricted to
		Correction = $\frac{\text{Diff}^a}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.30}{4} \times .207 = -.01$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	103.75	103.75	7'-6" - 8'-0"	✓	103.75
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...	161.90	161.90	8'-6"	✓	161.90
Bridge enclosed ...	3.10	2.32			2.32
" overhang aft ...					
" overhang forward ...					
Fore enclosed ...	83.33	83.33	8'-0"	✓	83.33
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	352.08	351.30			351.30

Standard Height of Superstructure	7.50
" " R.Q.D.	✓
Deduction for complete superstructure	42.00
Percentage covered $\frac{S}{L} =$	79.48 %
" " $\frac{S_1}{L} =$	79.30 %
" " $\frac{E}{L} =$	79.30 %
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	74.44 %
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	
Interpolation for bridge less than .2L (if required)	
Deduction = 42.00 × .7444 =	-31.26

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	54.30	1		54.30	59.00	59.00	1		59.00
$\frac{1}{2}$ L from A.P. ...	24.16	4		96.64	26.00	25.67	4		102.68
$\frac{3}{4}$ L " ...	5.97	2		11.94	6.00	6.42	2		12.84
Amidships ...		4					4		
$\frac{1}{4}$ L from F.P. ...	11.95	2		23.90	11.50	12.29	2		24.58
$\frac{3}{4}$ L " ...	48.33	4		193.32	50.00	49.18	4		196.72
F.P. ...	108.60	1		108.60	113.00	113.00	1		113.00
Total ...				488.70					508.82

Mean actual sheer aft = Excess  
Mean standard sheer aftMean actual sheer forward = Excess  
Mean standard sheer forward

Length of enclosed superstructure forward of amidships = 7.1L

" " aft of " = 7.1L

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{20.12}{18} \times (.75 - .3974) = -.39$ 

If limited on account of midship superstructure.

If limited to maximum allowance of 1½ ins. per 100 ft.

Deduction for Tropical Freeboard.  
Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 34.04

Summer freeboard = 6.12

Moulded draught (d) = 27.92

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = 6.98 = 7"

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 14695$ 

Tons per inch immersion at summer load water line

T = 50.5

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

= 7.27

= 7¼"

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient  $\frac{.786 + .68}{1.36} = \frac{1.466}{1.36}$ 

	+	-
Depth Correction ...	13.53	✓
Deduction for superstructures ...	✓	31.26
Sheer correction ...	✓	39
Round of Beam correction ...	✓	.01
Correction for Thickness of Deck amidships ...	✓	✓
Other corrections, scantlings, etc. ...	✓	✓
	13.53	31.66

Summer Freeboard = 73.41

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

Tropical Fresh Water Line above Centre of Disc ...	14¼"
Fresh Water Line " " ...	7¼"
Tropical Line " " ...	7"
Winter Line below " " ...	7"
Winter North Atlantic Line " " ...	7"

Tropical Fresh Water Freeboard ...	4' - 11¼"
Fresh Water " " ...	5' - 6¼"
Tropical " " ...	5' - 6½"
Winter " " ...	6' - 8½"
Winter North Atlantic " " ...	

24 SEP 1932

15 APR 1940

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# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Description of Hatchway	UDK No 1	UDK No 2	UDK No 3	UDK No 4	UDK No 5	UDK No 6	FORE No 1	BRIDGE No 3	BRIDGE No 4	POOP No 6	
Dimensions of Hatchway	24'-9" x 16'-0"	30'-0" x 16'-0"	24'-0" x 16'-0"	15'-0" x 16'-0"	27'-0" x 16'-0"	26'-0" x 16'-0"	24'-9" x 16'-0"	24'-0" x 16'-0"	15'-0" x 16'-0"	15'-0" x 16'-0"	
COAMINGS	Height above Deck	20"	31"	20"	20"	31"	20"	31"	31"	31"	31"
	Thickness	.60	.50	.60	.60	.48	.50	.46	.44	.40	.46
	Sides	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40
	Stiffeners	9" B.A.	9" B.A.	9" B.A.	9" B.A.	9" B.A.	9" B.A.	9" B.A.	9" B.A.	9" B.A.	9" B.A.
HATCH BEAMS	Brackets, Stays	Four	Four	Two	Two	Two	Three	Four	None	None	Three
	Number	Four	Five	Four + Bld	Two	Two	Three	Four	Four	Two	Four
	Spacing	4'-9.5"	5'-0"	6' top of Coaming	5'-0"	4'-5"	5'-2"	4'-7.5"	4'-8"	5'-0"	5'-2"
	Scantling and Sketch										
		16" x .40	19" x .34	15" x .38	16" x .38	16" x .34	16" x .38	14" x .34	19" x .34	19" x .34	19" x .34
	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"	3 1/2"
FORE AND AFTERS	Number										
	Spacing										
	Unsupported Lengths										
	Scantling* and Sketch				None						
HATCH COVERS	Bearing Surface										
	Material				Co. wood						
	Thickness				3"						
	How fitted				Four and ap.						
Spacing of Cleats		36"	24"	36"	36"	24"	36"	24"	24"	24"	24"
	Number of Tarpaulins	Two	Two	Two	Two	Two	Two	Two	Two	Two	Two
<p>*Are wood fore and afters steel shod at all bearing surfaces? <input checked="" type="checkbox"/></p> <p>Are battens and wedges efficient and in good condition? <input checked="" type="checkbox"/></p> <p>Are tarpaulins in good condition and in accordance with rule requirements? <input checked="" type="checkbox"/></p> <p>Are lashings provided in accordance with rule requirements? <input checked="" type="checkbox"/></p>											

Particulars of fiddle, funnel and ventilator coamings:—

Engine Room skylight of steel on casing top strongly constructed  
Fiddle openings protected by strong hinged plate covers  
Ventilators on casing top in good condition

Particulars of Flush Bunker Scuttles:—

None

Particulars of Companionways:—

On Poop. 1 @ 7'-0" x 3'-0" Steel, with steel door 4'-6" x 2'-6" sill 12" to Crew Space.  
Do. 1 @ 3'-0" x 2'-0" " " " 3'-3" x 1'-7" " " " Lavatory  
Do. 1 @ " " " " " " " " " Carpenter's Acc.

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

On Poop. 4 @ 36" dia Coaming 36" x .40 2 Hds.  
2 @ 22" " 36" x .40  
2 @ 10" " 12" x .50 20 Crew Space.  
2 @ 6" " 4" x .25  
1 @ 16" " 36" x .40 Tunnel.  
On Forecastle 2 @ 28" dia Coaming 36" x .40 2 Hds.  
On Upper Dk. 2 @ 30" " 51" x .35 2  
2 @ 33" " 51" x .35 1  
On Bridge 8 each side @ 7' x 5' Goose necks 16" in height to Bridge Space  
2 @ 36" dia Coaming 50" x .35 No 2 Hds.  
4 @ 6" " 6" x .26 20 Bridge Space  
1 @ 18" " 18" x .20 Steaming Eng House.  
2 @ 24" " 36" x .36 Bridge Space

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

On Forecastle 1 @ 3" to Fore Peak 6' in height  
1 @ 2" Double Blm 12"  
Back side 2nd Well 2 @ 2" " 3'-6"  
On Bridge 4 @ 2 1/2" " 12"  
Poop 2 @ 2 1/2" " 12"  
No closing arrangements.  
Wood plugs provided

Particulars of Gangway Cargo and Coaling Ports:—

An efficiently constructed Coaling door in Bridge space of steel 5'-6" x 3'-4" secured by  
2 steel struts. Door stiffened by 4 x 4 angle on edge.



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## Particulars of Scupper and Sanitary Discharge Pipes:—

No scupper pipe discharging below freeboard deck.  
 Sanitary discharges from Officers quarters discharge on bridge space with S-Valves.  
 Do. Crew. " between upper & 2<sup>nd</sup> deck.

## Particulars of Side Scuttles:—

9" Side scuttles in Poop, Bridge and Forecastle fitted with  
 hinged deadlights of substantial construction.

## Particulars of Guard Rails:—

On Poop and Bridge 3 Rails with stanchions 4'-6" apart 3'-0" high  
 Forecastle 2.

## Particulars of Gangways, Lifelines, etc.:—

Provision for Lifeline in Fore and Aft wells.

## 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 ... ..	33.0	4.0	36" x 15" 30" x 16"	Two	3.75 6.65 } 10.4	9.8
Forward Well ... ..	57.92	4.0	36" x 19" 30" x 16"	One	9.5 3.33 } 12.83	12.29
State position of each freeing port ... .. } After Well:— 2'-0" and 28'-0" from Bridge Bld 12" above deck (F. and A. position and height above deck edge) } Forward Well:— 5'-3" 3'-42" State, whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— Bar and Shutter Additional area where sheer is less than standard. 2 with rods only in fore well						

## 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 .42	.38	8 1/2 x 3 1/2 x .48	36" - 36"	Bkt 2p & Btm	5'-0" x 3'-0"	24"	
Raised Quarter Deck Bulkhead ...	✓							
Bridge, After Bulkhead ... ..	.26	.26	3 x 2 1/2 x .34	36"	None	5'-0" x 4'-0"	20"	
Bridge, Forward Bulkhead ... ..	24 x .46	.42	8" x 3 1/2 x .50	32" - 34"	Bkt 2p & Btm	5'-0" x 3'-0"	30"	
Forecastle Bulkhead ... ..	.30	.30	3 x 3 x .40	28" - 33"	None	2 @ 5'-0" x 4'-0" 2 @ 5'-0" x 2'-0"	24"	
Trunk, Aft ... ..	✓							
Trunk, Forward ... ..	✓							
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	✓							
Exposed Machinery Casings on Superstructure Decks ... ..	18 x .40	.32	3 x 3 x .32	36"	None	1 @ 5'-0" x 3'-3" 2 @ 4'-6" x 2'-0"	18"	7'-4"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	.30	.30	4 x 3 x .36	36"	None	4'-6" x 2'-0"	18"	8'-6"
Deckhouses on Flush Deck Ships ...	✓							

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

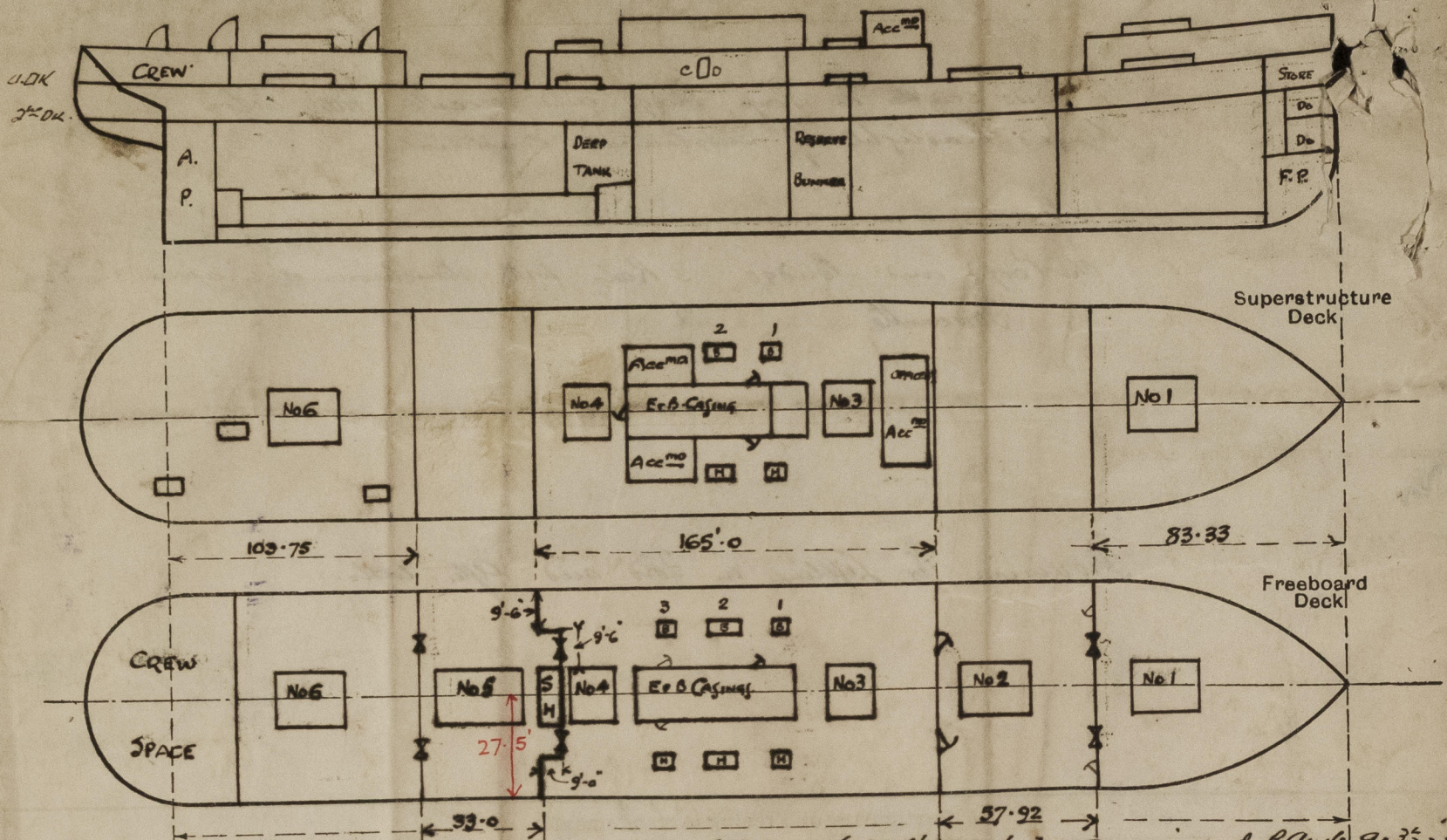
Poop Bulkhead ... ..	Steel plate secured by hooked bolts not passing through bulkhead.
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead ... ..	Steel plate secured by hooked bolts not passing through bulkhead.
Bridge, Forward Bulkhead ... ..	Steel hinged w. 2 doors capable of being manipulated from outside only.
Forecastle Bulkhead ... ..	Steel plate secured by hooked bolts not passing through bulkhead.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	and 2 hinged steel doors capable of being manipulated from both side.
Exposed Machinery Casings on Superstructure Decks ... ..	2 Steel and 1 teak wood hinged doors capable of being manipulated from both side.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	Steel hinged doors. Capable of being manipulated from both sides.
Deckhouses on Flush Deck Ships ...	✓



City of Rangoon.

City of Rangoon

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:—



Bunker Hatches in Bridge No 1 11'6" x 3'0" No 2 12'0" x 4'0" and No 3 6'0" x 4'0" Coamings of B. Angle 9 x 3 1/2 x 18  
 No wood covers or tarpaulins fitted  
 Bunker Hatches on Bridge Dk. No 1 11'0" x 3'0" No 2 10'6" x 4'0" Coamings of B. Angle 9 1/2 x 3 1/2 x 18  
 Wood covers 3" thick 2 tarpaulins, cleats 2" apart  
 BRIDGE LEN = 165.0  
 less 9.5 x 9.0 = 3.10  
 27.5  
 161.9 = Equiv.

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

External displacement at 27'0 draft = 14607 Tons per inch = 50.71  
 Do 28'0 15215 Do 57.25

This vessel is engaged in the Eastern Trade, Timber freeboard not required.

This survey has been held whilst vessel was afloat and therefore confined to an examination of the means of closing the openings in the decks and side of ship

Builder's name and yard number

W. Gray & Co. Ltd.

Names of sister ships

Owners

Ellerman Line Ltd. (Hull Line Ltd. Agents)

Fee £ 14 : 9 : 0

Received by me

Caps. 11/-



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