

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Index. No. **32878**  
(For London Office only.)

26 JUL 1932

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~  
having loop and Combined bridge and Forecastle

(Type of Superstructures.) 7003 1/2 M/T 28/4/29

Port of Survey Glasgow

Date of Survey July 21<sup>st</sup> 1932

Name of Surveyor W. S. MacNab

Particulars of Classification 100 A.I.

Ship's Name CITY OF SYDNEY

Nationality and Port of Registry British Liverpool

Official Number 161144

Gross Tonnage 6986

Date of Build 1930

Moulded Dimensions: Length 452 Breadth 51.75 Depth 34.5

Moulded displacement at moulded draught = 85 per cent. of moulded depth 16160 tons

Coefficient of fineness for use with Tables .739

Depth for Freeboard (D) 34.5

Moulded depth ... 34.5

Stringer plate ... .04

Sheathing on exposed deck  $T \left( \frac{L-S}{L} \right) =$

Depth for Freeboard (D) = 34.54

Depth correction

(a) Where D is greater than Table depth (D-Table depth) R =  $(34.54 - 30.13) \times 3.00 = +13.23$

(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 =  $\frac{B \times 12}{50} = 13.86$

Ship's Round of Beam = 14.5

Difference 0.64

Restricted to

Correction =  $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.64}{4} \left( 1 - \frac{.821}{1} \right) = .149 = 1.49$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	<u>58.4</u>	<u>58.4</u>	<u>8.5</u>		<u>58.4</u>	Standard Height of Superstructure <u>7.50</u>
" overhang ...						" " R.Q.D. <u>-</u>
R.Q.D. enclosed ...						Deduction for complete superstructure <u>42.00</u>
" overhang ...						Percentage covered $\frac{S}{L} = 82.10$
Bridge enclosed ...	<u>312.6</u>	<u>312.6</u>	<u>8.5</u>		<u>312.6</u>	" " $\frac{S_1}{L} = 82.10$
" overhang aft ...						" " $\frac{E}{L} = 82.10$
" overhang forward ...						Percentage from Table, Line A. <u>77.90</u>
Forecastle enclosed ...						(corrected for absence of forecastle (if required))
" overhang ...						Percentage from Table, Line B.
Trunk aft ...						(corrected for absence of forecastle (if required))
" forward ...						Interpolation for bridge less than 2L (if required)
Tonnage opening aft ...						Deduction = <u>42.00</u> x <u>.739</u> = <u>-32.42</u>
" forward ...						
Total ...	<u>371.0</u>	<u>371.0</u>			<u>371.0</u>	

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	<u>55.20</u>	1		<u>55.20</u>	<u>54</u>	<u>54.00</u>	1		<u>54.00</u>	Mean actual sheer aft = <u>deficient</u>
1/2 L from A.P. ...	<u>24.56</u>	4		<u>98.24</u>	<u>23</u>	<u>23.30</u>	4		<u>93.20</u>	Mean standard sheer aft = <u>deficient</u>
3/4 L " ...	<u>6.07</u>	2		<u>12.14</u>	<u>5.5</u>	<u>5.82</u>	2		<u>11.64</u>	Mean actual sheer forward = <u>deficient</u>
Amidships ...		4					4			Mean standard sheer forward = <u>deficient</u>
3/4 L from ...	<u>12.14</u>	2		<u>24.28</u>	<u>10</u>	<u>11.16</u>	2		<u>22.32</u>	Length of enclosed superstructure forward of amidships = <u>.50</u>
1/2 L from ...	<u>49.12</u>	4		<u>196.48</u>	<u>43.5</u>	<u>44.63</u>	4		<u>178.52</u>	" " aft of " = <u>.19</u>
F.P. ...	<u>110.40</u>	1		<u>110.40</u>	<u>108</u>	<u>108.00</u>	1		<u>108.00</u>	
Managers ...				<u>446.74</u>					<u>467.68</u>	
C ...										
I ...										
Difference between sums of products $\left( \frac{.75 - S}{2L} \right) = \frac{29.06}{18} \left( \frac{.75 - .4105}{1} \right) = +.35$										
In account of midship superstructure.										
If limited to maximum allowance of 1 1/2 ins. per 100 ft.										

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 15717$

Tons per inch immersion at summer load water line

$T = 53.28$

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

$= 7.37 = 7 \frac{1}{4}$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient  $\frac{.739 + .68}{1.36} = \frac{1.419}{1.36}$

Depth Correction ... 13.23

Deduction for superstructures ... 32.42

Sheer correction ... .55

Round of Beam correction ... .03

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

Summer Freeboard = 87.72

Freeboard Deck = 34.54

Freeboard = 6.04

Moulded draught (d) = 28.50

Tropical freeboard and addition for ...

Winter North Atlantic Freeboard (if ...)

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

Tropical Fresh Water Line above Centre of Disc ... 14.4

Fresh Water Line " " ... 7.4

Tropical Line " " ... 7.0

Winter Line below " " ... 7.0

Winter North Atlantic Line " " ... 7.0

Tropical Fresh Water Freeboard ... 4.0

Fresh Water " " ... 5.0

Tropical " " ... 5.0

Winter " " ... 5.0

Winter North Atlantic " " ... 6.0

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## PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS														
ON SUPERSTRUCTURE DECKS										ON FREEBOARD DECK				
Description of Hatchway	Nº1	Nº2	Nº2a	Nº3 Centre Wings	Hatch over Deep?	Nº5	Nº1	Nº2	Nº2a	Nº3 Centre Wings	Hatch over D.T.	Nº4	Nº5	Nº3 Centre Wings
Dimensions of Hatchway	22'6" x 14'	45' x 18'	18' x 18'	15' x 12' 12' x 6'6"	8'6" x 18'0"	18' x 18'	22'6" x 14'	45' x 18'	24' x 18'	15' x 12' 12' x 6'6"	7'6" x 14'	33' x 18'	31' x 18'	15' x 12' 12' x 6'6"
COAMINGS	Height above Deck ... 33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"	33"
	Thickness ... 44"	44"	44"	44"	44"	44"	44"	44"	44"	44"	44"	44"	44"	44"
	Sides ... 44"	44"	44"	44"	44"	44"	44"	44"	44"	44"	44"	44"	44"	44"
	Stiffeners ... 7 x 3 BA	12 x 3 1/2 BA	7 x 3 BA	7 x 3 BA	7 x 3 BA	7 x 3 BA	7 x 3 BA	7 x 3 BA	7 x 3 BA	7 x 3 BA	7 x 3 BA	7 x 3 BA	7 x 3 BA	7 x 3 BA
	Brackets, Stays ... 3 x 1 1/2 dia	7 x 1 1/2 dia	2 x 1 1/2 dia	2 x 1 1/2 dia	2 x 1 1/2 dia	2 x 1 1/2 dia	2 x 1 1/2 dia	2 x 1 1/2 dia	2 x 1 1/2 dia	2 x 1 1/2 dia	2 x 1 1/2 dia	2 x 1 1/2 dia	2 x 1 1/2 dia	2 x 1 1/2 dia
HATCH BEAMS	Number ... 4	9	3	3	3	3	4	9	4	2	2	6	4	2
	Spacing ... 4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6
	Scantling and Sketch	12 x 30	15 x 35	15 x 35	15 x 35	15 x 35	12 x 30	15 x 35	15 x 35	15 x 35	15 x 35	15 x 35	15 x 35	15 x 35
	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	3 1/2	3 1/2	3 1/2
FORE AND AFTERS	Number ...													
	Spacing ...													
	Unsupported Lengths													
	Scantling* and Sketch													
	Bearing Surface													
HATCH COVERS	Material ... Wood	Wood	Wood	Wood	Wood	Wood	Wood	Wood	Wood	Wood	Wood	Wood	Wood	Wood
	Thickness ... 2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4
	How fitted ... F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.
	Bearing Surface ... 3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"
Spacing of Cleats	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Number of Tarpaulins	2	2	3	None	3	3	2	2	2	2	2	3	3	2

\*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

Yes

Particulars of fiddley, funnel and ventilator coamings:—

Stockhold gratings Covered by Strong steel hinged Covers.  
Holes, funnel and Ventilators in efficient Condition  
Stylight of steel strongly Constructed

Particulars of Flush Bunker Scuttles:—

None.

[illegible]

Particulars of Companionways:—

Companionway to Engine Room in Steel House in Inlets Deck, Door 5'-3" x 2'-6" 1/8" Steel, Sill 162"  
 " " Over Space in Steel House in Loop Deck. Door 5' x 2'-0" Steel, Sill 18"  
 " " Steering Gear " " " " " " " 5' x 2'-4" " " 15"  
 Doors to Companionways operated from both Sides

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

List of Vents on Deck and Superstructure Decks:									
3	Vents on	Brig & Fore Deck	32" dia	Cummings	30" x 40	10	holds		
2	"	"	24	"	8" x 10	50	"	apparently stayed	
8	"	"	15	"	3 1/2" x 35	"	"	Deep Tank and Fore Deck	
4	"	"	11	"	36" x 36	"	"	Fore Deck	
4	"	"	10	"	35" x 35	"	"	Fore Deck	
4	"	"	10	"	30" x 38	"	"	Fore Deck	
2	"	"	6	"	31" x 30	"	"	E.R. Store	
4	"	"	16" x 4	Sorensen Neck	See Sketch			to Engine Room	
4	Vents on	Brig & Fore Deck	32" dia	Cummings	30" x 40	10	holds		
2	"	"	24	"	8" x 10	50	"	apparently stayed	
8	"	"	15	"	3 1/2" x 35	"	"	Deep Tank and Fore Deck	
4	"	"	11	"	36" x 36	"	"	Fore Deck	
4	"	"	10	"	35" x 35	"	"	Fore Deck	
2	"	"	6	"	30" x 38	"	"	Fore Deck	
4	"	"	16" x 4	Sorensen Neck	See Sketch			to Engine Room	

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

Car pipes on	Bridge & Felo Deck	10 1/2 high	x 4	thin	to Fore tank & D.B. tanks
"	"	15	"	4	"
"	"	26	"	4	"
"	"	28	"	2 1/2	"
"	"	28	"	2 1/2	"
"	"	21 1/2	"	2	"
"	"	42	"	4	"
"	"	20	"	6	"

Air pipes from Oil Fuel. Double bottom to  
both gauge.

all air pipes fitted with efficient  
closing appliances.

is of Gangway Cargo and Coaling Ports:—

N.Y. Cooling Abw. each Side in Bridge 5-3 x 3-0 apparently Constructed —



## Particulars of Scuppers and Sanitary Discharge Pipes:—

Scuppers from <sup>Cargo space</sup> poop, bridge and Forecastle at level of <sup>upper</sup> deck, through Ship's Sides and closed by Wood plugs or Cement on inside. Scuppers from Crew space in poop have Storm Valves at Ship's Side. Sanitary discharges from Crew space in poop have Storm Valves at Ship's Side.

## Particulars of Side Scuttles:—

Side Scuttles in poop, bridge and Forecastle 9' dia with hinged deadlights. Scuttles of Substantial Construction.

## Particulars of Guard Rails:—

Guard rails on poop 3-7 high with 3 rods and Stanchions spaced 4-11' / 4-0' /

Bulwarks on Forecastle from stem to forward end of No. 1 Hatch 3-3 high, efficiently Constructed and Supported. Bulwark on Foreboard Deck in Well 4-6 high, efficiently Constructed and Supported. This bulwark is portable for a length of 21-0 and is arranged to hinge down and is efficiently Supported by 4 stays 2-8 dia.

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

Gangway fitted from poop to bridge at level of Superstructure deck, efficiently Supported and having Stanchions and 3 rods each side of Gangway. Gangway in port side only.

## 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 ...	81-0'	4-6'	3-0' x 1-6'	4	18 sq feet	16-2 1/2
Forward Well ...						

State position of each freeing port ...

(F. and A. position and height above deck edge)

After Well:— From aft end of Bridge 11-1, 29-6", 49-4", 67-4" 13 1/2" above deck edge.

Forward Well:—

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— Hinged shutters and one rail.

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 ...	3-7 x 4-0	.56	7 x 3 1/2 x 4-0	31	hugged	5-1 x 4-0	18"	
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead ...	3-9 x 3-0	.30	3 1/2 x 3-0	30 1/2	None	5-1 x 3-6	18"	
Bridge, Forward Bulkhead ...								
Forecastle Bulkhead ...								
Trunk, Aft ...								
Trunk, Forward ...								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks ...								
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	18 x 50	.30	3 1/2 x 3-0	30	None	5-0 x 2-2	18"	
Deckhouses on Flush Deck Ships ...								

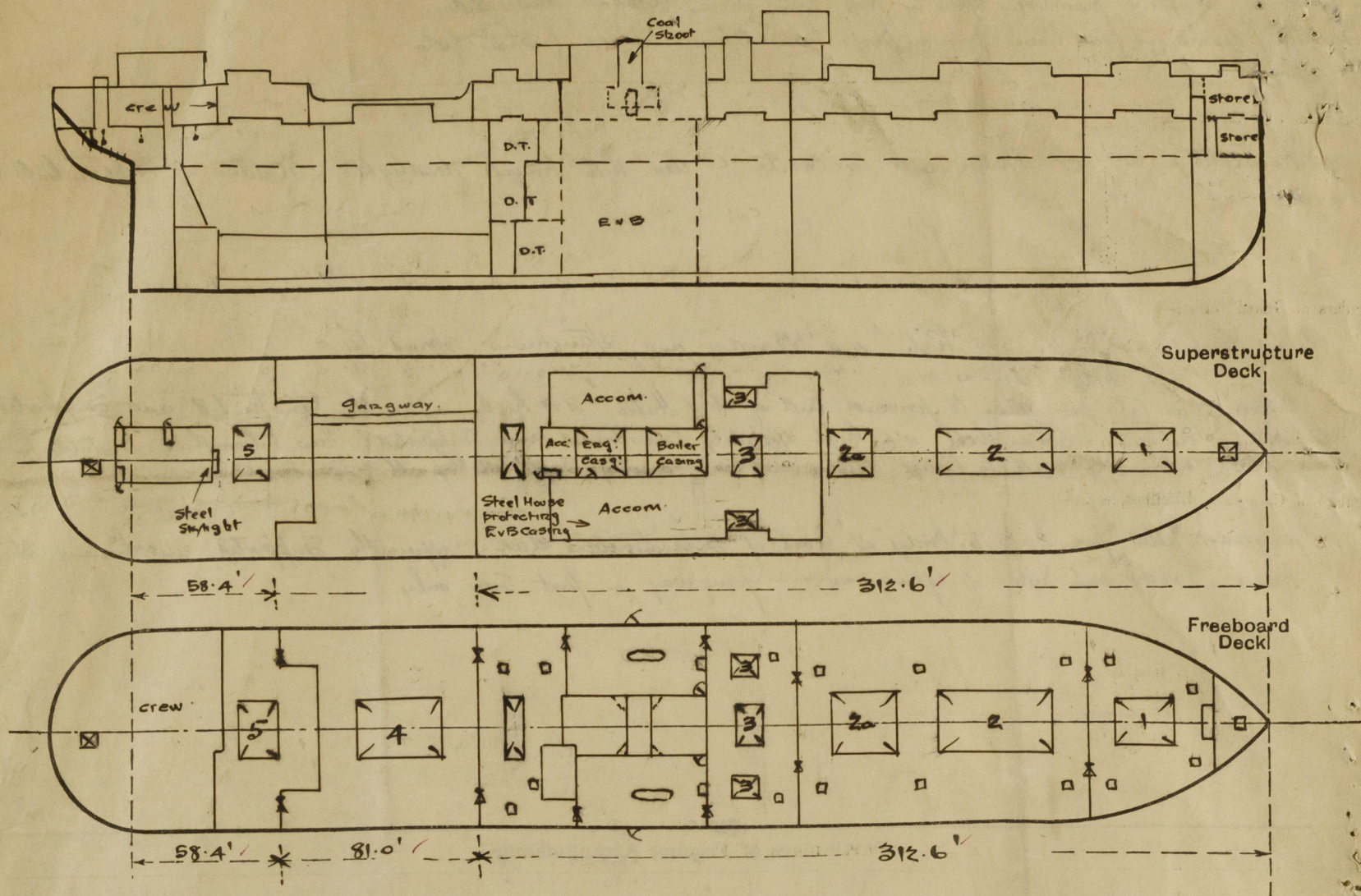
## Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead ...	Portable plates Secured by hook bolts which do not pass through the bulkhead.
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead ...	2 3/4" shifting boards, full height in channels riveted to bulkhead.
Bridge, Forward Bulkhead ...	
Forecastle Bulkhead ...	
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	
Exposed Machinery Casings on Superstructure Decks ...	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	Hinged steel doors. No means of closing made capable of being securely closed.
Deckhouses on Flush Deck Ships ...	



City of Sydney

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:—

In addition to the Survey of the items detailed in this report, the vessel has been examined in dry dock.

Timber freeboard not required  
Vessel engaged in the Indian Trade

External displacement at 28-0 Draught 15270 tons, T.P.I. 53 } from D.W. Scale.  
" " 29-0 " 15900 " " 53.4

Exp. Δ @ 29.0 = 15900  
Inv. " " 29.0 = 15900 - 80 = 15820  
" " 29.82 = 15820 + (53.4 x 62) = 16160  
Inv. Δ @ 29.53 = 29.62 = 15820 + (53.4 x 62) = 16160

15900  
15270  
630  
71  
630  
4410  
46730

447  
15270  
15717

Builder's name and yard number. Workman Clark (1928) Ltd. N°504

Names of sister ships

Owners. Ellerman Lines Ltd. (Hall & Co. Ltd. Managers)

Fee £ 14 : 9

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