

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having *Shelter deck with one tonnage opening aft.*

Port of Survey *Singapore*Date of Survey *9th April 32*Name of Surveyor *John T. Findlay*Ship's Name *Tweedbank*Nationality and Port of Registry
*British Belfast*Official Number
*161869*Gross Tonnage
*5626*Date of Build
*1930-9*Moulded Dimensions: Length *425' 0"* Breadth *57' 0"* Depth *38' 7"* to shelter deck.Moulded displacement at moulded draught = 85 per cent. of moulded depth
734

Coefficient of fineness for use with Tables

Particulars of Classification
*+100 AI with freeboard
Carrying Veg oil in deep tanks and in
Tanks between Tunnels.*

Depth for Freeboard (D) *29.44*
Moulded depth *To Shelter Dk. 38.58*
Stringer plate *upp. Dk. 43. Shelter Dk. 69*
Sheathing on exposed deck *3" full length Shelter Dk.*
 $T \left(\frac{L-S}{L} \right) =$
Depth for Freeboard (D) = *29.81*

Depth correction
(a) Where D is greater than Table depth
(D - Table depth) R =
(29.81 - 28.33) 3 = + 4.44
(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) *54.0*
Standard Round of Beam = $\frac{B \times 12}{50} = 13.68$
Ship's Round of Beam = *13.5*
Difference *.18*
Restricted to
Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.18^2}{4} (.007) = \text{negl.}$

DEDUCTION FOR SUPERSTRUCTURES.

See Sketch

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<i>24.5</i>	<i>24.5</i>	<i>9' 0.2"</i>	<i>inc. sheathing</i>	<i>24.5</i>
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	<i>394.5</i>	<i>394.5</i>	<i>9' 0.2"</i>	<i>inc. sheathing</i>	<i>394.5</i>
" overhang aft ...					
" overhang forward ...	<i>42.3</i>		<i>9' 0.2"</i>	<i>inc. sheathing</i>	
Fore enclosed ...					
" overhang ...					
Trunk aft ...		<i>63.00</i>			<i>3.00</i>
" forward ...	<i>6.00</i>				
Tonnage opening aft ...					
" forward ...					
Total ...	<i>425.0</i>	<i>422.00</i>			<i>422.00</i>

Standard Height of Superstructure *7.5'*
" " R.Q.D. *42"*
Deduction for complete superstructure
Percentage covered $\frac{S}{L} = 100\%$
" " $\frac{S_1}{L} = 99.30\%$
" " $\frac{E}{L} = 99.30\%$
Percentage from Table, Line A.
(corrected for absence of forecastle (if required)) *99.14%*
Percentage from Table, Line B.
(corrected for absence of forecastle (if required)) *98.5*
Interpolation for bridge less than .2L (if required)
Deduction = *42.0 x .9914 = - 41.64*

SHEER CORRECTION.

Note: Sheer taken while vessel afloat and loading.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<i>52.5</i>	1		<i>52.50</i>	<i>58</i>	<i>118.2</i>	1		<i>82.20</i>
$\frac{1}{4}$ L from A.P. ...	<i>23.36</i>	4		<i>93.44</i>	<i>27</i>	<i>26.86</i>	4		<i>146.32</i>
$\frac{3}{4}$ L " ...	<i>5.78</i>	2		<i>11.56</i>	<i>8</i>	<i>6.71</i>	2		<i>18.08</i>
Amidships ...		4					4		
$\frac{3}{4}$ L from F.P. ...	<i>11.56</i>	2		<i>23.12</i>	<i>10</i>	<i>11.06</i>	2		<i>22.12</i>
$\frac{1}{4}$ L " ...	<i>46.72</i>	4		<i>186.88</i>	<i>39</i>	<i>44.24</i>	4		<i>224.64</i>
F.P. ...	<i>105.00</i>	1		<i>105.00</i>	<i>106</i>	<i>106.00</i>	1		<i>126.20</i>
Total ...	<i>472.50</i>			<i>472.50</i>					<i>625.20</i>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{152.4}{18} (.25) = - 2.12$

If limited on account of midship superstructure.

Mean actual sheer aft = *1111*
Mean standard sheer aft = *1111*
Mean actual sheer forward = *1111*
Mean standard sheer forward = *1111*

Length of enclosed superstructure forward of amidships = *CS8*
" " aft of " = *CS8*

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

Depth to Freeboard Deck = *29.81*
Summer freeboard = *3.60*
Moulded draught (d) = *26.21*

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = *6.55 = 6 1/2*

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line
at 26.0% 73460 tons.
 $\Delta =$ *13240 tons.*

Tons per inch immersion at summer load water line
 $T =$ *46.08 48.*

Deduction = $\frac{\Delta}{40T}$ inches
 $=$ *7.01*
 $=$ *7"*

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient *734 + 68*
1.36

	+	-
Depth Correction ...	<i>4.44</i>	
Deduction for superstructures ...		<i>41.64</i>
Sheer correction ...		<i>2.12</i>
Round of Beam correction ...		
Correction for Thickness of Deck amidships ...		
Other corrections, scantlings, etc. ...		
Summer Freeb	<i>4.44</i>	<i>43.76</i>

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

Tropical Fresh Water Line above Centre of Disc ... *1 1/2"*
Fresh Water Line " " ... *7"*
Tropical Line " " ... *6 1/2"*
Winter Line below ... *5 6 1/2"*
Winter North Atlantic Line " " ... *5 6 1/2"*

Tropical Fresh Water Freeboard ...
Fresh Water " ...
Tropical " ...
Winter " ...
Winter North Atlantic " ...

MARKING

RECEIVED

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Shelter Deck						Upper Deck					
Description of Hatchway	N ^o 1	N ^o 2	N ^o 3	N ^o 4	N ^o 5	N ^o 1	N ^o 2	N ^o 3	N ^o 4	N ^o 5	
Dimensions of Hatchway	29'0" x 22'	30' x 22'	30' x 22'	33' x 22'	33' x 22'	24'9" x 22'	30' x 22'	16'6" x 22'	33' x 22'	33' x 22'	
COAMINGS	Height above Deck	30"	30"	30"	30"	30"	30"	30"	30"	30"	
	Thickness	7/16"	7/16"	7/16"	7/16"	7/16"	7/16"	7/16"	7/16"	7/16"	
	Sides	7' x 3' 7/16 BA	7' x 3' 7/16 BA	7' x 3' 7/16 BA	7' x 3' 7/16 BA	7' x 3' 7/16 BA	7' x 3' 7/16 BA	7' x 3' 7/16 BA	7' x 3' 7/16 BA	7' x 3' 7/16 BA	
	Stiffeners	7' x 3' 7/16 BA	7' x 3' 7/16 BA	7' x 3' 7/16 BA	7' x 3' 7/16 BA	7' x 3' 7/16 BA	7' x 3' 7/16 BA	7' x 3' 7/16 BA	7' x 3' 7/16 BA	7' x 3' 7/16 BA	
HATCH BEAMS	Brackets, Stays	Each hatch 2 palm stays each side to DK									
	Number	5	5	5	5	5	5	5	5	5	
	Spacing	4'-0 1/2"	5'-0"	5'-0"	5'-6"	5'-6"	4'-0"	5'-0"	4'-0"	5'-6"	
	Scantling and Sketch										
FORE AND AFTERS	Bearing Surface		Plate 16" x 44"					Plate 20" x 44"			
			angles 4 1/2" x 3" x 44"					angles 4 1/2" x 3" x 44"			
			3/4"					3/4"			
			3/4"					3/4"			
HATCH COVERS	Material	Pitch Pine									
	Thickness	3"	3"	3"	3"	3"	3"	3"	3"	3"	
	How fitted	all fitted fore and aft									
	Bearing Surface	3"	3"	3"	3"	3"	3"	3"	3"	3"	
Spacing of Cleats	23"	23"	23"	23"	23"	23"	23"	23"	23"	23"	
Number of Tarpaulins	4	4	4	4	4	4	4	4	4	4	
<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:—

Ventilator on Coaming Top:—

13-6" dia 18" coamings x .25 accommodation

1-6" " 18" " Mushroom Top

1-6" " 18" " Carpenter's Room

6-10" " 16" " accommodation

1 large vent-36" dia (?) to Engine Room fitted in centre of skylight

6-24" dia coam. 7'0" x 37 1/2" to Eng Room

1-12" dia coam 15" x .25 faller. 1 Steel skylight to faller

Particulars of Flush Bunker Scuttles:—

None.

Particulars of Companionways:—

Access to Crew's Acom. in Forecastle. Companionway on Shelter DK.

Ht. = 5'9" x 5'0" x 6'9". Sill = 15 1/2" Plating = 7/16" Two steel doors operated from inside only.

Companionway access hatch to Frig Tan Room from Shelter DK.

4'7 1/2" high x 24" x 36" 7/16" plating. Sill = 15 1/2" Steel door 3'0" x 25" W.T. operated from both sides.

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

Shelter DK. Fore Hd.

1-9" coaming 41" x 7/8 F. Peak space

3-12" " 36" x " Forecastle

2-6" " 36" x 1/4 Crew's Acom

8-oval 12" x 4" coam. 18" x 7/16 Crew's Acom

1-9" coam. 33" x 7/16 " " Deep Tanks

2-18" coam 5'6" x 7/8 (Brackets)

12-24" " 6'6" x 7/8

1-34" " 33" x 3/8 on side houses

2-18" " 6'6" x 7/8

2-12" coam. 6'9" x 7/8

2-24" " 30'0" x 3/8 Samson Pits

Side Houses. 6. Cl. M. Venti. 12" coam.

Frig House 1-12" coam 24" x 7/16

1-12" " 10'0" x 7/16 Mushroom

Coolers 1-12" coam 6'0" x 3/8

1-12" " 6'0" x 3/8 mushroom

1-6" " 3'4" x 3/8

Tunnel 1-12" coam 31" x 3/8

Peak Space 7. oval 12" x 4" coam 18" x 7/16

On Bridge. 7-6" dia coam 18" x 3

1-6" " " " M. Top

2-10" " " 18" " "

3-10" " " 15" x 3

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

Fore Peak - 1-3" dia G. Neck x 22" 4R Tanks

1st DB. 3-2 1/2" " " " 4-2 1/2" dia x 22"

2nd DB. 4-3 1/2" " " " 2-3 1/2" " " "

3rd DB. 4-3 1/2" " " " 2-6" dia x 22"

4th DB. 4-3 1/2" " " " F.W. Tanks

5th DB. 3-2 1/2" " " " 2-2 1/2" dia x 22"

Tunnel Tanks. 3-3 1/2" dia x 22"

Aft Peak. 1-3" " x 22"

Wood plugs supplied to all air pipe

Way Cargo and Coaling Ports:—

Two hinged openings in Tonnage space aft.

1'10" x 14" sealed with strongbacks.

Two tonnage openings from tonnage well into shelter tween decks

aft. openings 6'0" x 3'10" 16" from deck.

closed by means of 3" pine planks in grooves.

Particulars of Scuppers and Sanitary Discharge Pipes —

All scuppers and discharge pipes fitted with storm valves. Only scuppers from upper deck have outlets below fba dk.

Particulars of Side Scuttles:

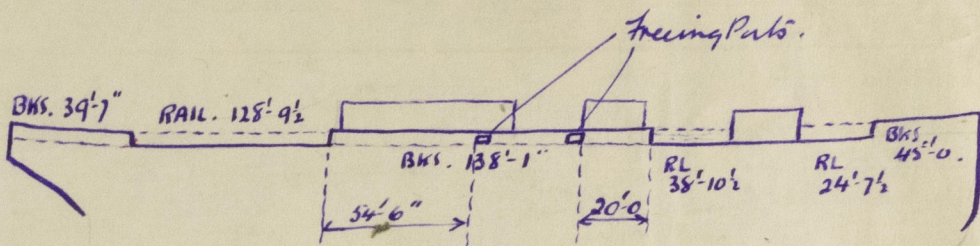
all side scuttle ports of 9m. and all fitted with strong hinged deadlights ✓

Particulars of Guard Rails:—

Guard rails of strong construction fitted on shelter deck forward of bridge and aft of RE casing. Height of top rail = 42" three tiers of intermediate rails spaced 7 1/2" apart to edge of side plating. Stanchions spaced about 4'-9" apart. ✓

Particulars of Gangways, Lifelines, etc.:—

none !



Particulars of Freeing Arrangements.

	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
Forecastle Bulkhead	45'-0"					
Amid. Deck	138'-1"	4'-9"	3'-8 1/2" x 1'-6"	2.	5.92 Sq ft.	
Poep Bulkhead	39'-7"					

State position of each freeing port ... After Well — Amidships and placed 82'-0" apart.
(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:— Shutters hinged at centre line lower edge 12" above stinger plate.
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
Poep Bulkhead	—	.30	3x3x.30 Angle	39"	—	—	—	8'-9"
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead		.16	3x3x.25	39"	—	60x3'-10	16"	
Bridge, Forward Bulkhead								
Forecastle Bulkhead	—	.25	6x3x.375 2nd. 7x3 1/2x.375 BA	29"	Plain angle none. BA - Bracket.	—	—	8'-6"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free-board or Raised Quarter Decks		.30.	—	—	—	6'3"x2'4"	16 1/2"	8'-0
Exposed Machinery Casings on Super-structure Decks								
Machinery Casings within Superstructures not fitted with Class I Closing Appliances								
Deckhouses on Shelter Dk.		.30.	—	—	—	6'3"x2'4"	16 1/2"	8'-0

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

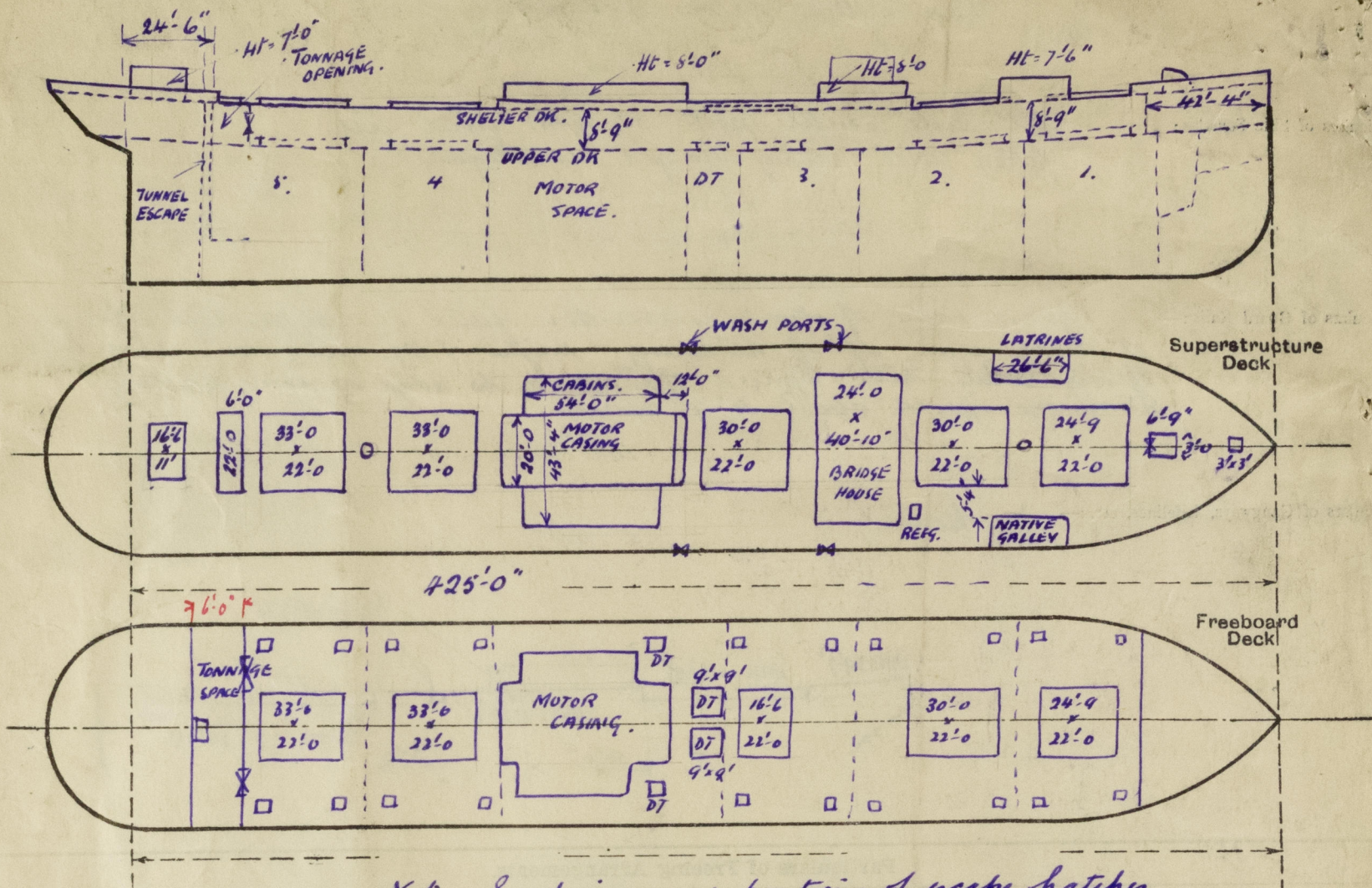
Poep Bulkhead	No openings
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	3" Sliding Boards in riveted channels to full height
Bridge, Forward Bulkhead	
Forecastle Bulkhead	
Exposed Machinery Casings on Free-board or Raised Quarter Decks	Teakwood doors after side 1 1/8 thick 6'3" x 2'4" sill = 16 1/2"
Exposed Machinery Casings on Super-structure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Shelter Dk.	Yard Dk Houses. Latrines etc for Crew. Steel Houses. openings 5'0" x 2'5 1/2" fitted with steel doors - sills = 15". Doors operated from both sides. Teak wood doors to Saloon Accm. aft end do. RE casing.

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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:—



Noti. Exact sizes and positions of escape hatches on upper deck note definite. This space full of cargo when vessel was examined.

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

Builder's name and yard number Messrs Warkman Clark & Co.

Names of sister ships Bank Line Ltd.

Owners

Fee \$ 150/-
Exp. 10/-

Received by me



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