

WRECK SECTION

Index No. 23995
(For London Office only.)

Rpt. C.11.

Lloyd's Register of Shipping. SURVEYS FOR FREEBOARD.

No. 572

Computation of Freeboard for Steamer, Sailing Ship, Tanker
a *skelle beek with Tonnage opening aft.*

Port of Survey *London*

Date of Survey *2nd August 1932*

(Type of Superstructures.)

Ship's Name *RT DARWIN*
Nationality and Port of Registry *British London*
Official Number *140446*
Gross Tonnage *8219*
Date of Build *1918*
Moulded Dimensions: Length *479.25'* Breadth *60.0'* Depth *35.1'*
Moulded displacement at moulded draught = 85 per cent. of moulded depth
Coefficient of fineness for use with Tables *.767*

Name of Surveyor *R. Blake*

Particulars of Classification *+100 A.1.*
Skelle beek with freeboard
S.S. Nw. No 3-9.29

Depth for Freeboard (D)
Moulded depth ... *35.08*
Stringer plate ... *.04*
Sheathing on exposed deck
 $T \left(\frac{L-S}{L} \right) =$
Depth for Freeboard (D) = *35.12*

Depth correction
(a) Where D is greater than Table depth
(D-Table depth) R = $(35.12 - 31.95) = 3.17$
+ 9.51
(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) *60.00*
Standard Round of Beam = $\frac{B \times 12}{50} = 14.40$
Ship's Round of Beam = *15.00*
Difference *Green 60*
Restricted to
Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{60^2 (1 - .9951)}{4} = 0.049 = \text{NIL}$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<i>75.0'</i>	<i>75.00</i>	<i>8'-7"</i>	<i>+3.17</i>	<i>75.00</i>
overhang ...	<i>✓</i>				
R.Q.D. enclosed ...	<i>✓</i>				
overhang ...	<i>✓</i>				
Bridge enclosed ...	<i>399.59</i>	<i>399.59</i>	<i>8'-7"</i>	<i>+3.17</i>	<i>399.59</i>
overhang aft ...					
overhang forward ...					
Forecastle enclosed ...					
overhang ...					
Trunk aft ...	<i>✓</i>				
forward ...	<i>✓</i>				
Tonnage opening aft ...	<i>4.66</i>	<i>2.33</i>	<i>8'-7"</i>	<i>+3.17</i>	<i>2.33</i>
forward ...					
Total ...	<i>479.25</i>	<i>476.92</i>			<i>476.92</i>

Standard Height of Superstructure *7.50*
" " R.Q.D.
Deduction for complete superstructure *42.00*
Percentage covered $\frac{S}{L} = 100$
" " $\frac{S_1}{L} = 99.51$
" " $\frac{E}{L} = 99.51$
Percentage from Table, Line A. *99.39*
(corrected for absence of forecastle (if required)) *-*
Percentage from Table, Line B.
(corrected for absence of forecastle (if required)) *-*
Interpolation for bridge less than .2L (if required) *-*
Deduction = $42.00 \times .9939 = 41.74$

SHEER CORRECTION.

Actual Superstructure *8'-10"*
Standard *7'-6"*
1'-4"

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<i>57.93</i>	<i>1</i>		<i>57.93</i>	<i>57.00</i>	<i>57.93</i>	<i>1</i>		<i>57.93</i>
$\frac{1}{4}$ L from A.P. ...	<i>25.78</i>	<i>4</i>		<i>103.12</i>	<i>25.28</i>	<i>25.78</i>	<i>4</i>		<i>103.12</i>
$\frac{2}{4}$ L " ...	<i>6.37</i>	<i>2</i>		<i>12.74</i>	<i>6.32</i>	<i>6.37</i>	<i>2</i>		<i>12.74</i>
Amidships ...	<i>-</i>	<i>4</i>		<i>-</i>	<i>-</i>	<i>-</i>	<i>4</i>		<i>-</i>
$\frac{3}{4}$ L from F.P. ...	<i>12.74</i>	<i>2</i>		<i>25.48</i>	<i>10.66</i>	<i>12.32</i>	<i>2</i>		<i>24.64</i>
$\frac{1}{4}$ L " ...	<i>51.86</i>	<i>4</i>		<i>207.44</i>	<i>42.66</i>	<i>49.85</i>	<i>4</i>		<i>199.40</i>
F.P. ...	<i>115.85</i>	<i>1</i>		<i>115.85</i>	<i>96.00</i>	<i>112.00</i>	<i>1</i>		<i>112.00</i>
Total ...				<i>521.36</i>	<i>+16.00</i>				<i>509.83</i>

Mean actual sheer aft = *Green*
Mean standard sheer aft

Mean actual sheer forward = *Deficient*
Mean standard sheer forward

Length of enclosed superstructure forward of amidships = *1*
" " aft of " = *1*
} *C.S.S.*

Correction = $\frac{\text{Difference between sums of products}}{18} = \frac{521.36 - 509.83}{18} = \frac{11.53}{18} = .64$
If limited on account of midship superstructure, *-*

Deduction for Tropical Freeboard.
Addition for Winter and Winter North Atlantic Freeboard.
Ft.
Depth to Freeboard Deck = *35.12*
Summer freeboard = *5.85*
Moulded draught (d) = *29.27*
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = *7.32* = *7.4*
Addition for Winter North Atlantic Freeboard (if required) = *-*

Deduction for Fresh Water.
Displacement in salt water at summer load water line
 $\Delta = 18366$
Tons per inch immersion at summer load water line
T = *57.95*
Deduction = $\frac{\Delta}{40T}$ inches = *7.92* = *8"*

TABULAR FREEBOARD corrected for Fresh Water (if required)	
Correction for coefficient	<i>767.68</i> <i>1.36</i>
Depth Correction	<i>9.51</i>
Deduction for superstructures	<i>41.74</i>
Sheer correction	<i>16</i>
Round of Beam correction	<i>-</i>
Correction for Thickness of Deck amidships	<i>-</i>
Other corrections, scantlings, etc.	<i>-</i>
Summer Freeboard	<i>70.15</i>

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:-
Tropical Fresh Water Line above Centre of Disc ... *15.4*
Fresh Water Line " ... *8*
Tropical Line " ... *7.4*
Winter Line below " ... *7.4*
Winter North Atlantic Line " ... *-*

Tropical Fresh Water Freeboard ... *5'-10.4"*
Fresh Water " ... *5'-2.4"*
Tropical " ... *5'-3.4"*
Winter " ... *6'-5.4"*
Winter North Atlantic " ... *-*

9 - AUG 1932

RECEIVED
MARKING FORM
23 NOV 1932

RECEIVED
MARKING FORM
17 SEP 1934

RECEIVED
MARKING FORM
Lloyd's Register
Foundation

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
← Superstructure Deck →						Freeboard Deck				
Description of Hatchway	1	2	3	4	5	1	2	3	4	5
Dimensions of Hatchway	74'-9" x 18'-0"	28'-0" x 18'-0"	18'-8" x 18'-0"	25'-8" x 18'-0"	18'-8" x 18'-0"	24'-9" x 18'-0"	28'-0" x 18'-0"	18'-8" x 18'-0"	25'-8" x 18'-0"	18'-8" x 18'-0"
COAMINGS	Height above Deck ... 30" Thickness { Sides ... 46" { Ends ... 40" Stiffeners ... NONE Brackets, Stays ... ✓	Height above Deck ... 30" Thickness { Sides ... 48" { Ends ... 40" Stiffeners ... NONE Brackets, Stays ... ✓	Height above Deck ... 30" Thickness { Sides ... 44" { Ends ... 40" Stiffeners ... NONE Brackets, Stays ... ✓	Height above Deck ... Same Thickness { Sides ... as { Ends ... as Stiffeners ... No 1 Brackets, Stays ... ✓	Height above Deck ... Same Thickness { Sides ... as { Ends ... as Stiffeners ... No 3 Brackets, Stays ... ✓	Height above Deck ... 12" Thickness { Sides ... 46" { Ends ... 40" Stiffeners ... None Brackets, Stays ... ✓	Height above Deck ... Same Thickness { Sides ... as { Ends ... as Stiffeners ... No 1 Brackets, Stays ... ✓	Height above Deck ... Same Thickness { Sides ... as { Ends ... as Stiffeners ... No 1 Brackets, Stays ... ✓	Height above Deck ... Same Thickness { Sides ... as { Ends ... as Stiffeners ... No 1 Brackets, Stays ... ✓	Height above Deck ... Same Thickness { Sides ... as { Ends ... as Stiffeners ... No 1 Brackets, Stays ... ✓
HATCH BEAMS	Number ... 5 Spacing ... 4'-1 1/2" Scantling and Sketch ... 2 as A, 29" deep, 3 as B Bearing Surface ... 3 1/2"	Number ... 5 Spacing ... 4'-8" Scantling and Sketch ... 2 as A, 31" deep, 3 as B Bearing Surface ... 3 1/2"	Number ... 3 Spacing ... 4'-8" Scantling and Sketch ... 1 as A, 31" deep, 2 as B Bearing Surface ... 3 1/2"	Number ... 5 Spacing ... Same Scantling and Sketch ... as, No 1 Bearing Surface ... 3 1/2"	Number ... 3 Spacing ... Same Scantling and Sketch ... as, No 3 Bearing Surface ... 3 1/2"	Number ... 5 Spacing ... 4'-1 1/2" Scantling and Sketch ... 2 as C, as, 3 as B Bearing Surface ... 3 1/2"	Number ... 5 Spacing ... 4'-4" Scantling and Sketch ... Same, 24" deep, No 1 Bearing Surface ... 3 1/2"	Number ... 3 Spacing ... 1 as A Scantling and Sketch ... 24" deep, 2 as B Bearing Surface ... 3 1/2"	Number ... 5 Spacing ... 4'-3 1/2" Scantling and Sketch ... 2 as C, 2 as B Bearing Surface ... 3 1/2"	Number ... 5 Spacing ... 4'-3 1/2" Scantling and Sketch ... 1 as A, 2 as B Bearing Surface ... 3 1/2"
FORE AND AFTERS	Number ... A Spacing ... 4'-3" x 38" Unsupported Lengths ... 6'-7 1/2" Scantling* and Sketch ... 1, 34", 100 Bearing Surface ... 3 1/2" x 1 1/2" Solid 1/2 Round	Number ... B Spacing ... 4'-6" x 38" Unsupported Lengths ... 39 lbs per ft Scantling* and Sketch ... 10" Bearing Surface ... 3 1/2" x 1 1/2" Solid 1/2 Round	Number ... C Spacing ... 4'-3" x 38" Unsupported Lengths ... 3'-2 1/2" x 3" Scantling* and Sketch ... 12", 1'-4", Solid Bearing Surface ... 3 1/2" x 1 1/2" Solid 1/2 Round							
HATCH COVERS	Material ... W.P." Thickness ... 2 3/4" How fitted ... F + A Bearing Surface ... 3"	Material ... Same Thickness ... as How fitted ... No 1 Bearing Surface ... No 1	Material ... Same Thickness ... as How fitted ... No 1 Bearing Surface ... No 1	Material ... Same Thickness ... as How fitted ... No 1 Bearing Surface ... No 1	Material ... Same Thickness ... as How fitted ... No 1 Bearing Surface ... No 1	Material ... W.P. Thickness ... 2 3/4" How fitted ... F + A Bearing Surface ... 3"	Material ... Same Thickness ... as How fitted ... No 1 Bearing Surface ... No 1	Material ... Same Thickness ... as How fitted ... No 1 Bearing Surface ... No 1	Material ... Same Thickness ... as How fitted ... No 1 Bearing Surface ... No 1	Material ... Same Thickness ... as How fitted ... No 1 Bearing Surface ... No 1
Spacing of Cleats	24"	Same	Same	Same	Same	30" to 36"	Same	Same	Same	Same
Number of Tarpaulins	2	as No 1	as No 1	as No 1	as No 1	2	as No 1	as No 1	as No 1	as No 1

*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 fiddley, funnel and ventilator coamings :—

Stokehold gratings covered by strong steel hinged covers. ✓
 Tidley & funnel ventilators in an efficient condition.
 Engine skylight of steel strongly constructed.

Particulars of Flush Bunker Scuttles:—

1 Scuttles on Bridge deck starb^d side of Cast Steel
Covers fitted with bayonet joints;

Particulars of Companionways :—

Particulars of Companionways:—														
1	hinged wood	entrance	door	on	superstructure	to	crew's	quarters	below	having	as	sill	12"	high
1	"	steel	"	"	"	"	"	N ^o 1	hold	"	"	"	22"	"
6	"	wood	"	"	"	"	"	engineers'	alleyway	"	"	"	15"	"
1	"	steel	"	"	"	"	"	stores	below	(Island House aft)	"	"	15"	"

all entrance doors can be operated from both sides.

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

22 Vents on Superstructure Deck Coamings 3'-0" x .32" led to Space below
2 " " " " " " 2'-10" x .32" " " "

all Vent Coamings closed by wood plugs & canvas covers.

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

30 - 2½" dia C.I. Air Pipes on Superstructure Deck 2'-3" high
2 - 6" dia " " " " " 2'-4" "
Closed by means of Canvas Covers.

Particulars of Gangway Cargo and Coaling Ports :—

2 Cargo doors each side 5'-6" x 4'-3" between Superstructure & Freeboard Deck
3 Hatch " " 2'-3" x 2'-0" " Freeboard & Second "

all doors of substantial construction, and efficiently secured watertight.

Particulars of Scuppers and Sanitary Discharge Pipes:—

from spaces above freeboard deck fitted with storm valves at ship's side & efficient traps at inner end. ✓
 Scuppers from spaces above freeboard deck which are closed with class 2 closing appliances have storm valves at ship's side & wood plugs at inner end. ✓

Particulars of Side Scuttles:—

all side scuttles below freeboard deck fitted with hinged deadlights. ✓

Scuttles of substantial construction. ✓

Forward Rails:—

Forward rails on Superstructure 3' 9" high, 4 rods, stanchions 4'-9" apart. ✓
 Forecastle 3'-6" 3 " 4'-2" " ✓

Particulars of Gangways, Lifelines, etc.:—


NONE.

Crew berthed below forward. ✓

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 ...	4'-8" ✓	8'-7" ✓	20" x 18" ✓	1		
Forward Well ...	✓	✓	✓	✓	✓	✓

State position of each freeing port ... After Well:— Cr of Port 14" from top of Poop Bulkhead 11" above 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:— Shutter thus  ✓

Additional area where sheer is less than standard.

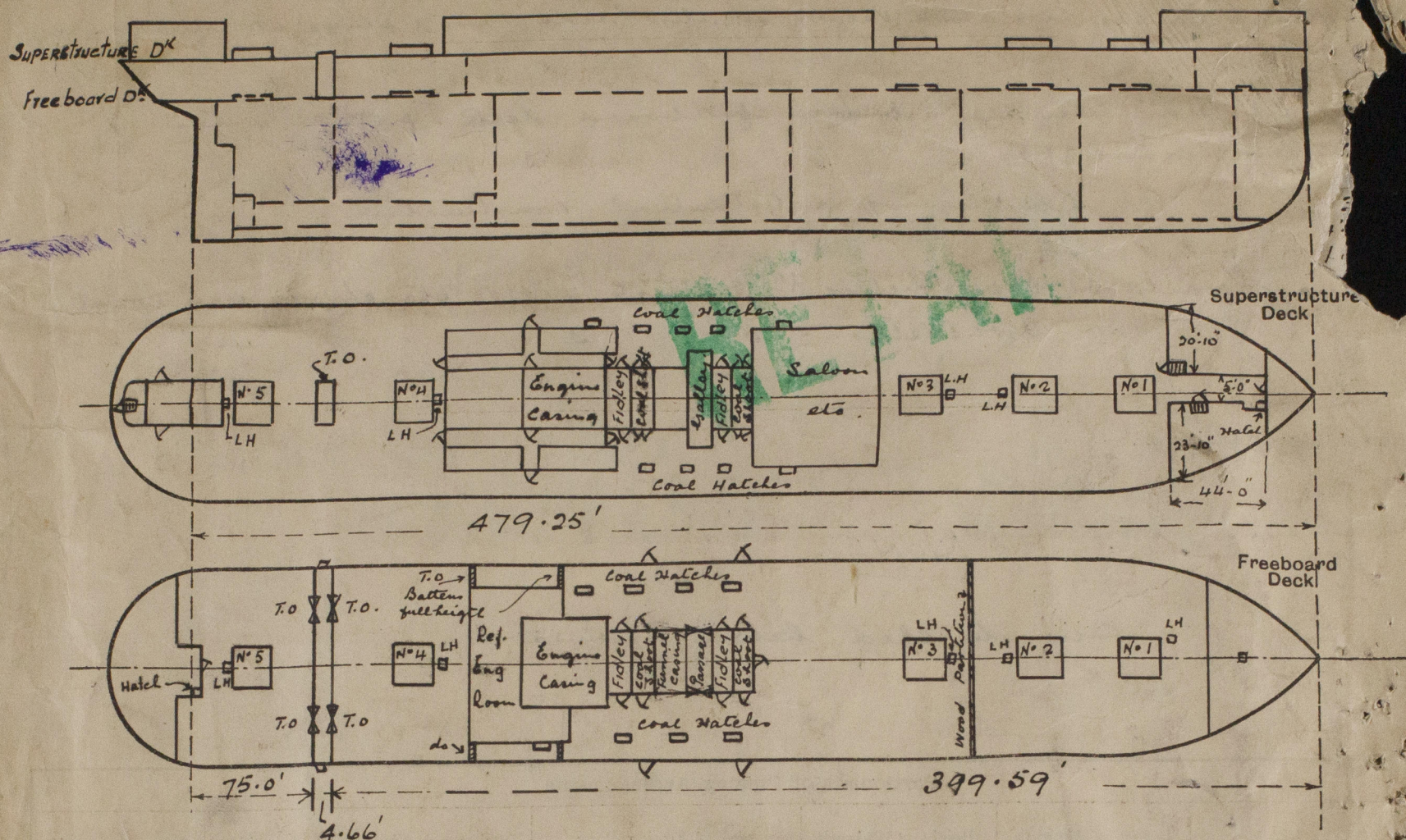
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ...	5/16" ✓	5/16" ✓	3" x 2 1/2" x 30" ✓	3'-2" ✓	none. ✓	5'-3" x 4'-6" ✓	15" ✓	8'-7" ✓
Raised Quarter Deck Bulkhead ...	✓	✓	✓	✓	✓	✓	✓	✓
Bridge, After Bulkhead ...	5/16" ✓	5/16" ✓	3" x 2 1/2" x 30" ✓	3'-2" ✓	none. ✓	5'-3" x 4'-6" ✓	15" ✓	8'-7" ✓
Bridge, Forward Bulkhead ...	✓	✓	✓	✓	✓	✓	✓	✓
Forecastle Bulkhead ...	✓	✓	✓	✓	✓	✓	✓	✓
Trunk, Aft ...	✓	✓	✓	✓	✓	✓	✓	✓
Trunk, Forward ...	✓	✓	✓	✓	✓	✓	✓	✓
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	✓	✓	✓	✓	✓	✓	✓	✓
Exposed Machinery Casings on Superstructure Decks ...	40" ✓	38" ✓	3 1/2" x 2 1/2" x 30" ✓	3'-6" ✓	none. ✓	4 w 6-3" 5-6" ✓ 4 w 5-6" x 2-4" ✓	15" ✓ 17" ✓	8'-3" ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	40" ✓	38" ✓	3 1/2" x 2 1/2" x 30" ✓	3'-6" ✓	none. ✓	5 w 6-0" x 3-6" ✓ 3 w 5-10" x 2-3" ✓	18" ✓	8'-6" ✓
Deckhouses on Flush Deck Ships ...	✓	✓	✓	✓	✓	✓	✓	✓

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

Poop Bulkhead ...	2 Tonnage openings fitted with portable plates with hooked bolts. ✓
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead ...	2 Tonnage openings fitted with portable plates with hooked bolts. ✓
Bridge, Forward Bulkhead ...	✓
Forecastle Bulkhead ...	✓
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	✓
Exposed Machinery Casings on Superstructure Decks ...	4 hinged steel doors, operated from both sides. ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	4 hinged steel doors, operated from both sides. ✓
Deckhouses 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 shewn on the following sketches:—



3" P. Pine sheathing on Superstructure & Forecastle Decks:

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

Superstructure Deck

Small Hatches

4 Ladder Hatches	3'-0" x 2'-0"	Coamings	1'-9" high	wood covers, cleats, battens, tarpaulins
9 coal	4'-2" x 2'-8"	"	1'-6"	" " " " " "
1 Hatch in Forecastle	4'-0" x 3'-3"	"	1'-3"	" " " " " "
1 Tonnage opening	4'-8" x 18'-0"	"	10"	" " " " " "

Freeboard Deck

			Breadth	Displacement	Tons per Inch
4 Ladder Hatches	3'-0" x 2'-0"	9" B.A. Coamings, wood covers, cleats, battens, tarpaulins	25'-0"	15,285	56.69
8 coal	4'-0" x 3'-4"	1'-6" wood covers, cleats, battens, tarpaulins	26'-0"	15,975	56.97
1 Hatch Fore Peak	3'-8" x 3'-6"	3 1/2" L wood covers, locking bar	27'-0"	16,665	57.27
1 " aft	2'-9" x 2'-4"	3 1/2" L " " " "	28'-0"	17,355	57.57
			29'-0"	18,040	57.90

Sum. End. dit = 29'-5 1/2" @ 29' End Δ = 18040
(5.625 x 57.92) = 326
18366

T.P.I. = 57.90

18797
92
18903

This vessel was surveyed afloat. Survey confined to freeboard

Builder's name and yard number: Workman Clarke & Co Ltd, Belfast. No 351.

Names of sister ships:

Owners: Commonwealth & Dominion Line Ltd.

Fee £ 16 : 3 : 0 Received by me: 6/8/32



© 2020
Lloyd's Register
Foundation