

6 JAN 1933

Index. No. 31546
(For London Office only.)Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

11,008

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having *forecastle, bridge, & raised quarter decks*Port of Survey *Belfast*

(Type of Superstructures.)

Date of Survey *Jan 24th 1933*

Ship's Name

Nationality and Port of Registry

Official Number

Gross Tonnage

Date of Build

*"DONAGHMORE"**British
Workington**140832**581**1925-1*Name of Surveyor *John Renne*Moulded Dimensions: Length *164.75* Breadth *26.875* Depth *13.33*Moulded displacement at moulded draught = 85 per cent. of moulded depth *1030* tonsCoefficient of fineness for use with Tables *.719*Particulars of Classification *+100 A1**S.S. Reg. No. 128*

Depth for Freeboard (D)

Moulded depth ... *13.33*Stringer plate ... *.03*

Sheathing on exposed deck

$$T \left(\frac{L-S}{L} \right) =$$

Depth for Freeboard (D) = *13.36*

Depth correction

(a) Where D is greater than Table depth

$$(D - \text{Table depth}) R = (13.36 - 10.98) \times 1.267 = +3.01$$

(b) Where D is less than Table depth (if allowed)

$$(\text{Table depth} - D) R =$$

If restricted by superstructures

Round of Beam correction

Moulded Breadth (B) *26.875*

$$\text{Standard Round of Beam} = \frac{B \times 12}{50} = 6.45$$

$$\text{Ship's Round of Beam} = 7$$

$$\text{Difference} = \text{excess} .55$$

Restricted to

$$\text{Correction} = \frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.55}{4} \left(1 - \frac{.2114}{164.75} \right) = -1.03$$

DEDUCTION FOR SUPERSTRUCTURES.

Poop enclosed ...

" overhang ...

R.Q.D. enclosed ...

" overhang ...

Bridge enclosed ...

" overhang aft ...

" overhang forward ...

F'cle enclosed ...

" overhang ...

Trunk aft ...

" forward ...

Tonnage opening aft ...

" forward ...

Total ...

Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
<i>94.25</i>	<i>94.25</i>	<i>3.5</i>		<i>94.25</i>
<i>11.0</i>	<i>11.00</i>	<i>7.2</i>		<i>11.00</i>
<i>19.00</i>	<i>20.60</i>	<i>7.2</i>		<i>20.60</i>
<i>9.75</i>	<i>4.04</i>			<i>4.07</i>
<i>134.00</i>	<i>129.92</i>			<i>129.92</i>

Standard Height of Superstructure *6.00*" " R.Q.D. *3.431*Deduction for complete superstructure *22.47*Percentage cover $\frac{S}{L} = 81.34\%$ " " $\frac{S_1}{L} = 78.86\%$ " " $\frac{E}{L} = 78.86\%$ Percentage from Table, Line A. *73.89%*

(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 = *22.47 x .7389 = 16.6*

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<i>26.47</i>	1		<i>26.47</i>	<i>4.2</i>	<i>44.83</i>	1		<i>44.83</i>
$\frac{1}{2}$ L from A.P. ...	<i>11.78</i>	4		<i>47.12</i>	<i>18</i>	<i>18.14</i>	4		<i>76.00</i>
$\frac{3}{8}$ L " ...	<i>2.91</i>	2		<i>5.82</i>	<i>4.5</i>	<i>4.53</i>	2		<i>9.50</i>
Amidships ...	<i>—</i>	4		<i>—</i>	<i>—</i>	<i>—</i>	4		<i>—</i>
$\frac{3}{8}$ L from F.P. ...	<i>5.82</i>	2		<i>11.64</i>	<i>7.75</i>	<i>7.68</i>	2		<i>15.36</i>
$\frac{1}{2}$ L " ...	<i>23.56</i>	4		<i>94.24</i>	<i>31.00</i>	<i>30.81</i>	4		<i>123.24</i>
F.P. ...	<i>52.94</i>	1		<i>52.94</i>	<i>72.00</i>	<i>72.00</i>	1		<i>72.00</i>
Total ...				<i>238.23</i>					<i>340.93</i>

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{238.23 - 340.93}{18} \left(.75 - \frac{.3433}{164.75} \right) = -1.96$$

If limited on account of midship superstructure.

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = *16.86*Summer freeboard = *3.71*Moulded draught (d) = *13.15*

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = *3.29* = *3.24*

Addition for Winter North Atlantic Freeboard (if

required) = *2" = 5.2"*

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$$\Delta = 1242$$

Tons per inch immersion at summer load water line

$$T = 8.69$$

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

$$= 3.57$$

$$= 3.2$$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$$\frac{.719 + .68}{1.36} = 1.399$$

$$\frac{1.36}{1.36} = 1.0$$

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

Summer Freeboard = *44.49*

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

Tropical Fresh Water Line above Centre of Disc ...

Fresh Water Line " " ...

Tropical Line " " ...

Winter Line below " " ...

Winter North Atlantic Line " " ...

Tropical Fresh Water Freeboard ...

Fresh Water " " ...

Tropical " " ...

Winter " " ...

Winter North Atlantic " " ...


10 JAN 1933

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Freebd Dk. R. Qd Dk. Fore Dk. Freebd Dk. R. Qd Dk. Casing Top										
Description of Hatchway			No. 1.	No. 2.	Fore Peak.	Hold.	Aft. Peak Tank.	Bunkers.		
Dimensions of Hatchway			26'-8" x 13'-7"	28'-8" x 13'-7"	22" x 22"	2' x 2'-2"	18" dia	5'-13'-7"		
COAMINGS	Height above Deck Thickness Stiffeners Brackets, Stays	Sides	3'-8"	3'-3"	12"	18"	12"	9" B.A.		
		Ends	4 1/4	4 1/4	26	28	26			
			4 1/4							
			7" B.A.	7" B.A.						
			3 on side	4 on side						
HATCH BEAMS	Number Spacing Scantling and Sketch 		3	3						
			6'-8"	7'-2"						
			17" x 9" x 36	17" x 9" x 36						
			3 x 3 x 30	3 x 3 x 32						
		3 x 1 1/2" cope	3 x 1 1/2" cope							
	Bearing Surface		3"	3"						
FORE AND AFTERS	Number Spacing Unsupported Lengths Scantling* and Sketch		3	3						
			3'-4" 3/4	3'-4" 3/4						
			6'-2	6'-2						
			Centers 7" deep 6 1/2" wide Side 6 1/2" deep 6 1/2" wide	As No. 1						
	Bearing Surface		3"	3"						
HATCH COVERS	Material Thickness How fitted Bearing Surface		Wood.	As No. 1.	As No. 1.	Wood.	Steel.	Wood.		
			2 1/2"			2 1/2"	25"	2 1/2"		
			Laid in			Laid in	Bolted	Laid in		
			2"			1 1/2"	3"	2 1/2"		
Spacing of Cleats			23"	23"	12"	14"		24"		
Number of Tarpaulins			2	2	2	2		1		
*Are wood fore and afters steel shod at all bearing surfaces? Yes.										
Are battens and wedges efficient and in good condition? Battens require to be made good.										
Are tarpaulins in good condition and in accordance with rule requirements? Yes.										
Are lashings provided in accordance with rule requirements? Fittings for lashings provided.										

Particulars of fiddle, funnel and ventilator coamings:—

Funnel, funnel & ventilator coamings of steel, efficient.
Funnel openings protected by hinged steel cover.
Engine room skylight steel, strong.

Particulars of Flush Bunker Scuttles:—

none.

Particulars of Companionways:—

none.

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

Position	Space to	Height	Dia	Thickness	No.	Closing Appliance
Fore Dk.	Fore	9"	6"	26"	2	Canvas cover, wooden plug.
do.	Hold.	36"	10"	30"	1	do do & steel cover.
Bridge Dk.	Bridge	7"	6"	25"	3	S.D. mushroom tops.
R. Qd. Dk.	Hold.	36"	10"	30"	1	Canvas cover, steel cover, wooden plug.

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

Position	Space to	No.	Height to opening	Dia.	Material	Closing Appliance
Fore Dk.	F.P. Tank	1	8"	2 1/2"	W.I.	Wooden plug.
Freebd Dk.	D.B. Tank	1	12"	3 1/2"	W.I.	do.
R. Qd. Dk.	do.	2	9"	2 1/2"	W.I.	do.
do.	A.P. Tank	1	9"	2 1/2"	W.I.	do.

Particulars of Gangway Cargo and Coaling Ports:—

none.



Particulars of Scuppers and Sanitary Discharge Pipes:—			At Shell	Innes End
Item.	Where From.	Position Discharge	Stem Valve.	
San. Discharge	Fore Wc.	Below Deck Plt.	do	✓
do.	Wc on R. Aft Dk.	do	do	✓

Particulars of Side Scuttles:— The side scuttles are efficient. —
The side scuttles on fore-castle side are fitted with hinged deadlights (2 missing).
" " " " bridge " are not fitted with deadlights. —

On Forecastle Deck. Guard rails 3'2" high 2 rows. Stanchions spaced 4' apart.
On Inboard, Bridge & R.O.G. Decks efficient steel bulwarks are fitted. —

Particulars of Gangways, Lifelines, etc.:— ~~No lifeline is fitted.~~
An efficient gangway is formed by No 1 hatch top with easy access
from bridge ladders. ~~Even berthed forward.~~ *and suitable provision*
is made for lifelines

Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
Starboard R. Q ⁴ Dk...	94'-3"	3'-4"	2'-4" x 1'-3" 3'-2" x 1'-9"	3. 4	32 22	18.85 18 3/4
Forward Well ...	30'-9"	4'-6"	2'-6" x 1'-5"	3.	10.65	9.6
<p>State position of each freeing port ... } After Well:— } See sketch. 3 1/2"</p> <p>(F. and A. position and height above deck edge) } Forward Well:— } 10"</p> <p>State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— <i>hinged steel shutters.</i></p> <p>Additional area where sheer is less than standard.</p>						

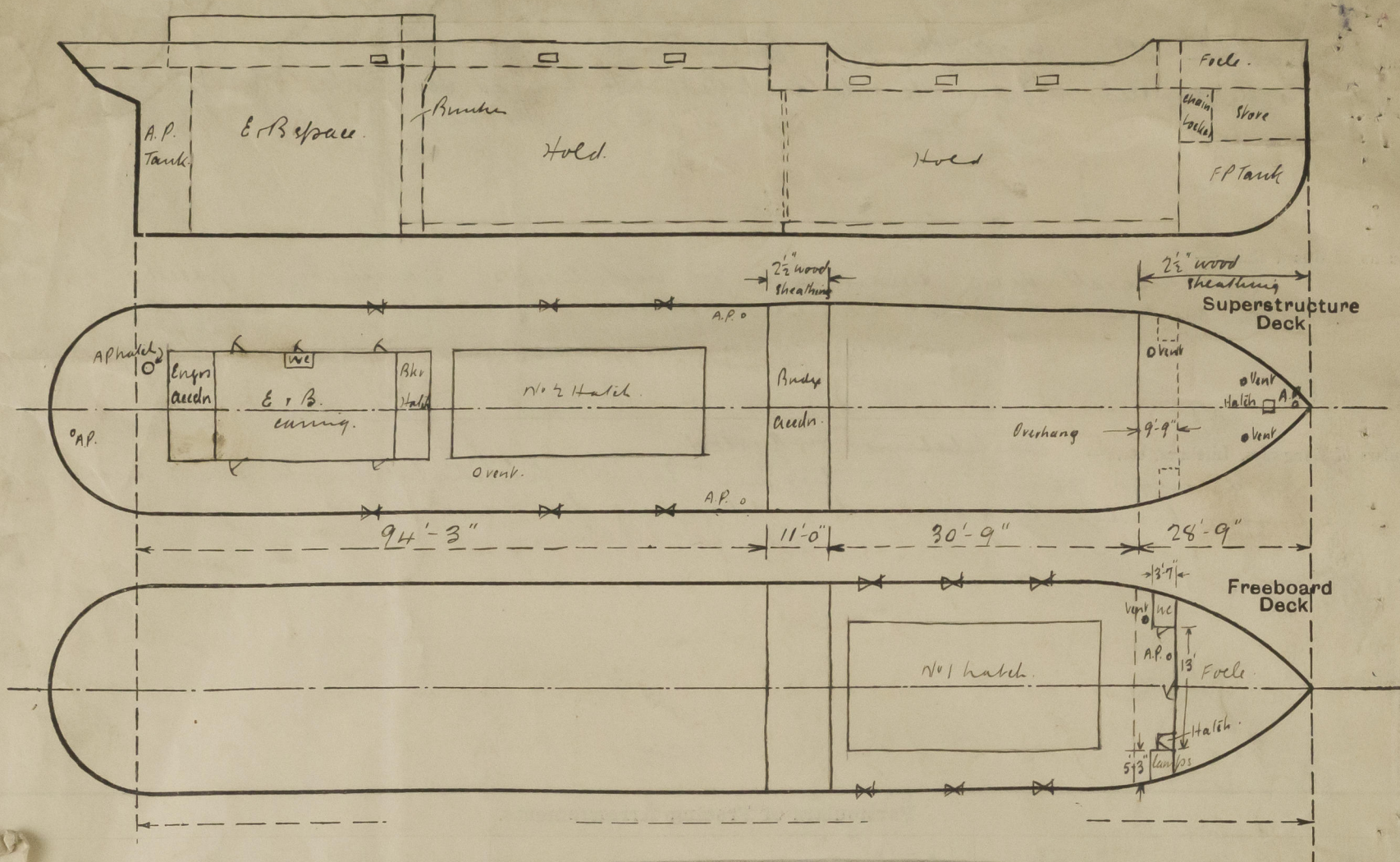
Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	✓							
Raised Quarter Deck Bulkhead ...	✓	25	Diaphragm brackets	5'-0"	✓	✓	✓	3'-6"
Bridge, After Bulkhead	✓	25	3 x 3 x .30 L's 2-6 x 1-8 x 5	30"	Brackets bracketed	✓	✓	3'-6"
Bridge, Forward Bulkhead	40	32	6 x 3 x 8/16 5	30"	Top. Brackets. Bottom. Deck bar.	none	✓	7'-0"
Forecastle Bulkhead	30	25	2 x 2 x 1/2 L's 3 x 3 x .30 L's	38" 1/2 42"	Deck bars	1-4'-4" x 2'-3" 2-4'-6" x 1'-10"	19"	7'-0"
Trunk, Aft	✓							
Trunk, Forward	✓							
Exposed Machinery Casings on Deck Deck Raised Quarter Deck ...	30	25	3" x 3" x .30"	30"	Top. Brackets Bottom. Deck bar.	4 @ 4'-6" x 2'	18"	7'-0"
Exposed Machinery Casings on Super- structure Decks	✓							
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances	✓							
Deckhouses on Flush Deck Ships ...	✓							

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

Poop Bulkhead	✓	
Raised Quarter Deck Bulkhead ...	✓	} no openings
Bridge, After Bulkhead	✓	
Bridge, Forward Bulkhead	✓	} no openings
Forecastle Bulkhead		3 hinged steel doors (securing both sides) - 2 locks broken .
Exposed Machinery Casings on Free board or Raised Quarter Deck ...		4 hinged steel doors securing from both sides.
Exposed Machinery Casings on Super- structure Decks	✓	
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances	✓	
Deckhouses on Flush Deck Ships ...	✓	

Danaghmore

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:—



This vessel has been examined in drydock, for docking survey & repair damage. Damage repairs now to be effected.

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

In bunker casing side there is one opening 2' x 1'-9" with hinged steel shutter secured by clip. Sill 2'-4" above deck.

By M.S.
 $(19.0 + 3.58) - \frac{13 \times 3.58}{23.50} = 11.98$
 $22.58 - 11.98 = 10.60$
 $28.75 - 10.60 = 18.15$
 18.15, 1/2 allowed = 4.07

Builder's name and yard number

J. Lewis & Sons Ltd. (Aberdeen)

Names of sister ships

Owners

Sanit Helen's Colliery & Brickworks Co. Ltd.

Fee £

6 : 16 : 0

Received by me



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