

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Yorcastle

(Type of Superstructures.)

Ship's Name Steam Tug. Nationality and Port of Registry 16.00 Gross Tonnage 887 Date of Build

Moulded Dimensions: Length 135.0' Breadth 30.0' Depth 16.0'

Moulded displacement at moulded draught = 85 per cent. of moulded depth 887 tons

Coefficient of fineness for use with Tables .564 (.68 lowest in tables).

Port of Survey Hull

Date of Survey ✓

Name of Surveyor J. Macleod

Particulars of Classification 100 A-1.
for towing services
(contemplated).

Depth for Freeboard (D) 16.00'

Moulded depth ... 16.00'

Stringer plate ... 1/2"04

Sheathing on exposed deck 3" steel wood raised deck.

$T \left(\frac{L-S}{L} \right) = 25 \times \frac{101}{135} = 18.5$ (see general note)

Depth for Freeboard (D) = 16.24

Depth correction

(a) Where D is greater than Table depth (D - Table depth) R = (16.24 - 9.00) 1.038 = + 7.51"

(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) 30.0'

Standard Round of Beam = $\frac{B \times 12}{50} = 7.20"$

Ship's Round of Beam = 10"

Difference excess = 2.8"

Restricted to

Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{2.8}{4} \times .8148 = .57"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	✓				
" overhang ...	✓				
R.Q.D. enclosed ...	✓				
" overhang ...	✓				
Bridge enclosed ...	✓				
" overhang aft ...	✓				
" overhang forward ...	✓				
F'cle enclosed ...	<u>25.0'</u>	<u>25.0</u>	<u>3.25'</u>	<u>.06</u>	<u>12.25</u>
" overhang ...	<u>27.91</u>		<u>-1.19</u>		<u>13.54</u>
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	<u>25.0</u>	<u>25.0</u>			<u>12.75</u>

Standard Height of Superstructure	<u>6.00'</u>
" " R.Q.D.	<u>✓</u>
Deduction for complete superstructure	<u>19.50"</u>
Percentage covered $\frac{S}{L} =$	<u>18.52</u>
" " $\frac{S_1}{L} =$	<u>18.52</u>
" " $\frac{E}{L} =$	<u>9.45</u>
Percentage from Table, Line A.	<u>5.04</u>
(corrected for absence of forecastle (if required))	<u>4.72</u>
Percentage from Table, Line B. ✓	
(corrected for absence of forecastle (if required)) ✓	
Interpolation for bridge less than 2L (if required) ✓	
Deduction = <u>19.50</u> × <u>.0472</u>	<u>= - .98"</u>

SHEER CORRECTION.

Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P. ...	<u>23.50</u>	<u>1</u>	<u>23.50</u>	<u>45</u>	<u>45.00</u>	<u>1</u>	<u>45.00</u>
$\frac{1}{4}$ L from A.P. ...	<u>10.46</u>	<u>4</u>	<u>41.84</u>	<u>24</u>	<u>24.00</u>	<u>4</u>	<u>96.00</u>
$\frac{2}{4}$ L " ...	<u>2.585</u>	<u>2</u>	<u>5.17</u>	<u>8.2</u>	<u>8.50</u>	<u>2</u>	<u>17.00</u>
Amidships ...	<u>-</u>	<u>4</u>	<u>-</u>	<u>0</u>	<u>-</u>	<u>4</u>	<u>-</u>
$\frac{3}{4}$ L from F.P. ...	<u>5.17</u>	<u>2</u>	<u>10.34</u>	<u>5</u>	<u>5.00</u>	<u>2</u>	<u>10.00</u>
$\frac{1}{4}$ L " ...	<u>20.915</u>	<u>4</u>	<u>83.66</u>	<u>24</u>	<u>24.00</u>	<u>4</u>	<u>96.00</u>
F.P. ...	<u>47.00</u>	<u>1</u>	<u>47.00</u>	<u>57</u>	<u>57.00</u>	<u>1</u>	<u>57.00</u>
Total ...			<u>211.51</u>				<u>321.00</u>

Mean actual sheer aft = Excess

Mean standard sheer aft

Mean actual sheer forward = Excess

Mean standard sheer forward

Length of enclosed superstructure forward of amidships = nil.

" aft of " = nil.

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{109.49}{18} (.45 - .0926) = -4.00"$$

If limited on account of midship superstructure. Yes. Nil. 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 = 16.29

Summer freeboard = 1.69

Moulded draught (d) = 14.60

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 3.65 = 3 $\frac{3}{4}$ "

Addition for Winter North Atlantic Freeboard (if required) = 3 $\frac{3}{4}$ + 2 = 5 $\frac{3}{4}$ "

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 992$ estimated

Tons per inch immersion at summer load water line

$T = 7.98$

Deduction = $\frac{\Delta}{40 T}$ inches = 3.11 - 3"

W.L. draft

13.6 12.6

14.6 13.6

7.77 7.98

7.83

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient ✓

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

+	-
<u>7.51</u>	<u>.92</u>
<u>-</u>	<u>.98</u>
<u>-</u>	<u>-</u>
<u>-</u>	<u>.57</u>
<u>.72</u>	<u>-</u>
<u>.60</u>	<u>-</u>
<u>.33</u>	<u>-.49</u>
<u>8.11</u>	<u>1.55</u>

Summer Freeboard = 20.16 - 34

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

Tropical Fresh Water Line above Centre of Disc ...	<u>6 $\frac{3}{4}$"</u>	Tropical Fresh Water Freeboard ...	<u>1' 8 $\frac{1}{4}$"</u>
Fresh Water Line " " ...	<u>3"</u>	Fresh Water " " ...	<u>1' 1 $\frac{1}{2}$"</u>
Tropical Line " " ...	<u>3 $\frac{3}{4}$"</u>	Tropical " " ...	<u>1' 5 $\frac{1}{4}$"</u>
Winter Line below " " ...	<u>3 $\frac{3}{4}$"</u>	Winter " " ...	<u>1' 4 $\frac{1}{2}$"</u>
Winter North Atlantic Line " " ...	<u>5 $\frac{3}{4}$"</u>	Winter North Atlantic " " ...	<u>2' 0"</u>

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway									
Dimensions of Hatchway									
COAMINGS	Height above Deck								
	Thickness								
	Sides								
	Ends								
HATCH BEAMS	Stiffeners								
	Brackets, Stays								
	Number								
	Spacing								
FORE AND AFTERS	Scantling and Sketch								
	Number								
	Spacing								
	Unsupported Lengths								
HATCH COVERS	Scantling* and Sketch								
	Number								
	Spacing								
	Bearing Surface								
Spacing of Cleats									
Number of Tarpaulins									

*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?

Particulars of fiddley, funnel and ventilator coamings:—

Particulars of Flush Bunker Scuttles:—

Particulars of Companionways:—

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

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

Particulars of Gangway Cargo and Coaling Ports:—

Particulars of Scuppers and Sanitary Discharge Pipes:—

Particulars of Side Scuttles:—

1 sidelight (p+s) to forward accommodation with hinged deadlights fitted close up to deck.

Particulars of Guard Rails:—

Particulars of Gangways, Lifelines, etc.:—

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						
Forward Well						

State position of each freeing port. (P. and A. position and height above deck edge) After Well:—
 Forward Well:—
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—
 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								
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead								
Bridge, Forward Bulkhead								
Forecastle Bulkhead								
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks								
Exposed Machinery Casings on Superstructure Decks								
Machinery Casings within Superstructures 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	
Bridge, After Bulkhead	
Bridge, Forward Bulkhead	
Forecastle Bulkhead	
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships	

Hinged wood door - Spring lock.
 Steel hinged door to rule.

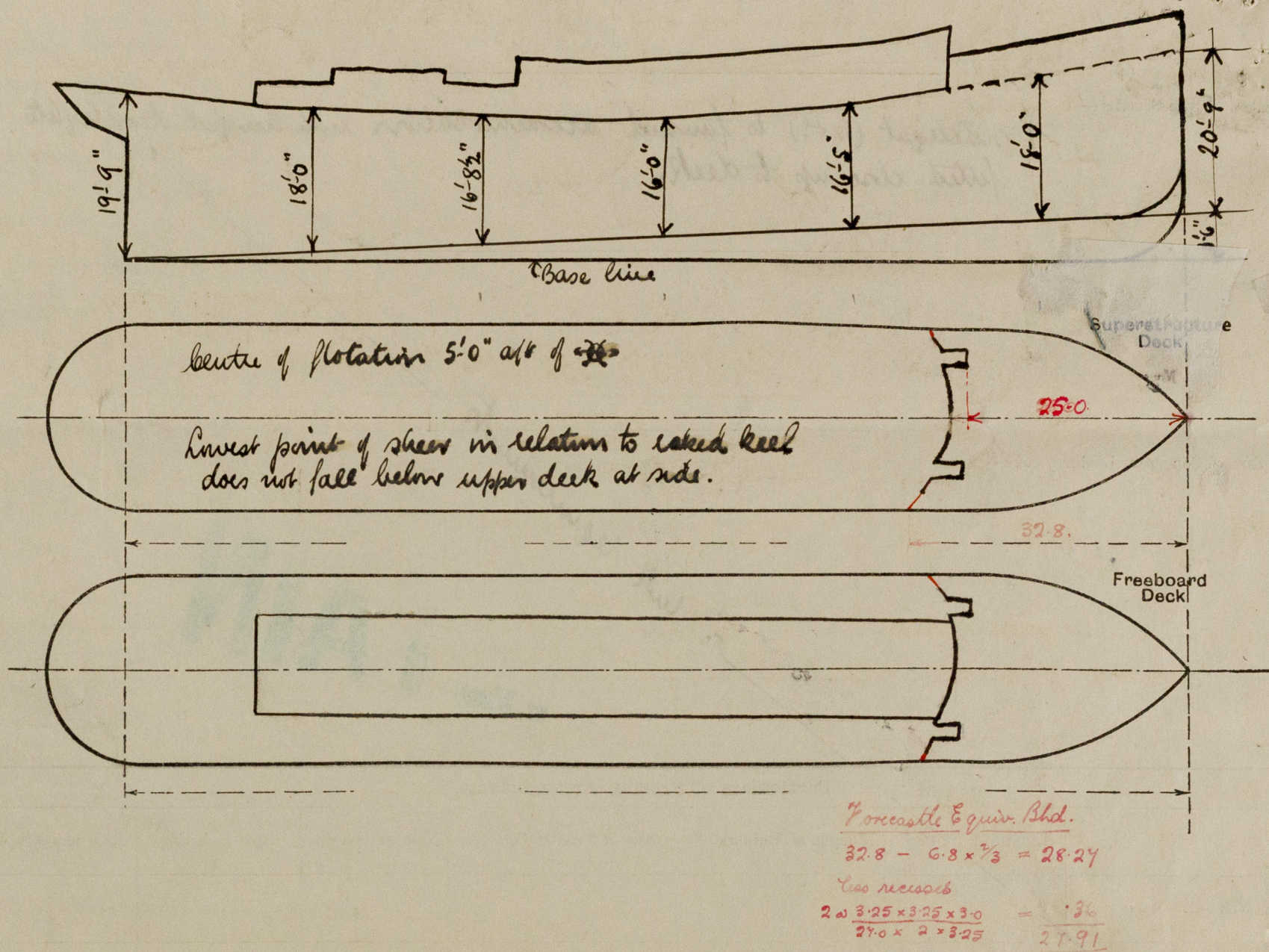


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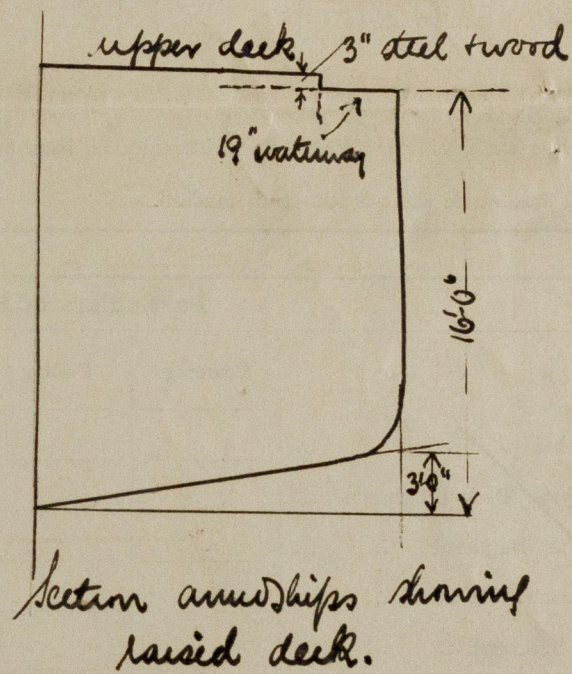
Lloyd's Register Foundation

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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:—



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



Builder's name and yard number Messrs Lochrane & Sons, Ltd. Yard No 1184.

Names of sister ships "Superman". Hull No. 185.

Owners United Tanning Co Ltd.

Fee £ : : Received by me