

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Yorcastle Port of Survey Hull

(Type of Superstructures.)

Date of Survey

Name of Surveyor J. Macleod

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)

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

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	16.00'	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	30.0'
Stringer plate	1/2"	(16.24 - 9.00) 1.038 = + 7.51"		Standard Round of Beam = $\frac{B \times 12}{50}$	7.20"
Sheathing on exposed deck	3" steel wood raised deck .19	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	10"
$T \left( \frac{L-S}{L} \right) =$				Difference	excess = 2.8"
$.25 \times \frac{101}{134}$ (see general order)	.23	If restricted by superstructures	<input checked="" type="checkbox"/>	Restricted to	
Depth for Freeboard (D) =	16.24			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 <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed	✓					Standard Height of Superstructure <u>6.00'</u>
" overhang	✓					" " R.Q.D. <input checked="" type="checkbox"/>
R.Q.D. enclosed	✓					Deduction for complete superstructure <u>19.50'</u>
" overhang	✓					Percentage covered $\frac{S}{L} =$ <u>18.52</u>
Bridge enclosed	✓					" " $\frac{S_1}{L} =$ <u>18.52</u>
" overhang aft	✓					" " $\frac{E}{L} =$ <u>9.45</u>
" overhang forward	✓					" " $\frac{E}{L} =$ <u>10.03</u>
F'cle enclosed	<u>25.0'</u>	<u>25.0</u>	<u>3.25'</u>	<u>.06</u>	<u>12.75</u>	Percentage from Table, Line A. <u>5.04</u> <u>4.72</u>
" overhang	<u>27.91</u>		<u>-1.9</u>	<u>3.25/6.00</u>	<u>13.84</u>	(corrected for absence of forecastle (if required))
Trunk aft						Percentage from Table, Line B. ✓
" forward						(corrected for absence of forecastle (if required)) ✓
Tonnage opening aft						Interpolation for bridge less than 2L (if required) ✓
" forward						Deduction = $19.50 \times \frac{.0472}{.0501} = - .98$ <u>.92</u>
Total	<u>25.0</u>	<u>25.0</u>				

### SHEER CORRECTION.

Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product	
A.P.	23.50	1	23.50	45	45.00	1	45.00	Mean actual sheer aft = Excess
1/4 L from A.P.	10.46	4	41.84	24	24.00	4	96.00	Mean actual sheer forward = Excess
3/8 L "	2.585	2	5.17	8.2	8.50	2	17.00	
Amidships	-	4	-	0	-	4	-	Length of enclosed superstructure forward of amidships = } Nil.
3/8 L from F.P.	5.17	2	10.34	5	5.00	2	10.00	" aft of " = } Nil.
1/4 L "	20.915	4	83.66	24	24.00	4	96.00	
F.P.	47.00	1	47.00	57	57.00	1	57.00	
Total			<u>211.51</u>				<u>321.00</u>	

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

If limited on account of midship superstructure. Yes. Nil. 6574 If limited to maximum allowance of 1 1/2 ins. per 100 ft. ✓

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

Depth to Freeboard Deck = 16.29 Ft.

Summer freeboard = 1.69

Moulded draught (d) = 14.60

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches =  $\frac{14.60}{4}$  inches = 3.65 = 3 3/4"

Addition for Winter North Atlantic Freeboard (if required) =  $3 3/4 + 2 = 5 3/4"$

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 =  $\frac{\Delta}{40T}$  inches =  $\frac{992}{40 \times 7.98} = 3.113$

W.L. draft 7.77

13.6 12.6 7.98

14.6 13.6 7.83

TABULAR FREEBOARD corrected for Flush Deck (if required)

	+	-	
Correction for coefficient			<u>13.60</u>
Depth Correction	<u>7.51</u>	<u>7.92</u>	
Deduction for superstructures		<u>9.8</u>	
Sheer correction		<u>5.7</u>	
Round of Beam correction	<u>7.2</u>		
Correction for Thickness of Deck amidships	<u>6.0</u>		
Other corrections, scantlings, etc.	<u>7.3</u>	<u>1.49</u>	
	<u>8.11</u>	<u>1.55</u>	<u>+ 6.56</u>
			Summer Freeboard = <u>20.16</u> <u>34</u>

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

Tropical Fresh Water Line above Centre of Disc	... 6 3/4"	Tropical Fresh Water Freeboard	... 1' 8 1/4"
Fresh Water Line	... 3"	Fresh Water	... 1' 5 1/4"
Tropical Line	... 3 3/4"	Tropical	... 1' 4 1/2"
Winter Line below	... 3 3/4"	Winter	... 2' 0"
Winter North Atlantic Line	... 5 3/4"	Winter North Atlantic	... 2' 2"

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS																					
Description of Hatchway																					
Dimensions of Hatchway																					
COAMINGS	Height above Deck																				
	Thickness																				
	Stiffeners																				
	Brackets, Stays																				
HATCH BEAMS	Number																				
	Spacing																				
	Scantling and Sketch																				
FORE AND AFTERS	Bearing Surface																				
	Material																				
HATCH COVERS	Thickness																				
	How fitted																				
	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 :-

*To rule requirements.*

*Steam Tug*

24 MAR 1932

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. :-

*To rule requirements*

**RETAIN**

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 ... After Well :-  
 (P. 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 :-  
 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).

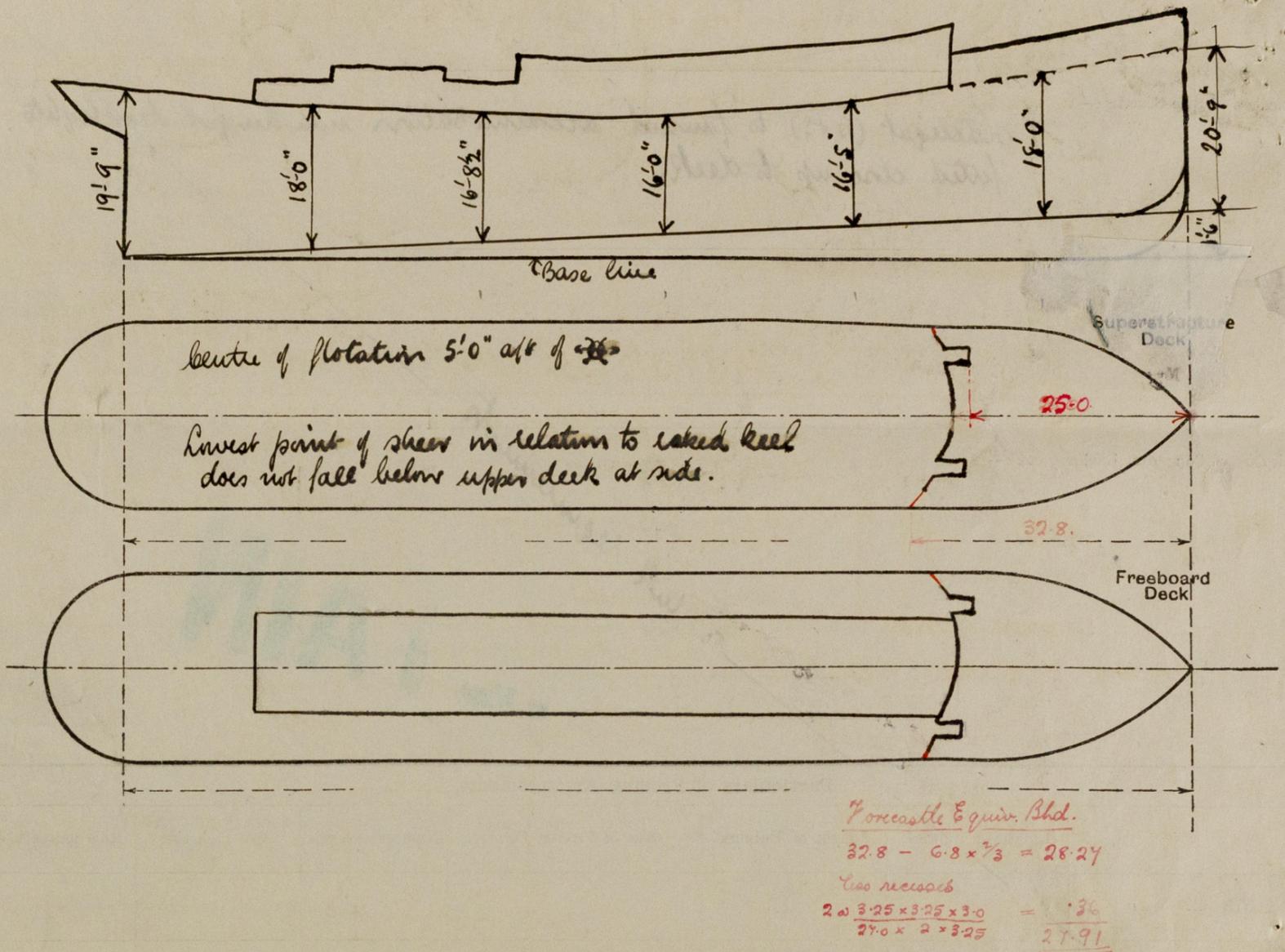
Poop Bulkhead	
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	
Bridge, Forward Bulkhead	
Forecastle Bulkhead	
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships	

*1/2 rule reqts*

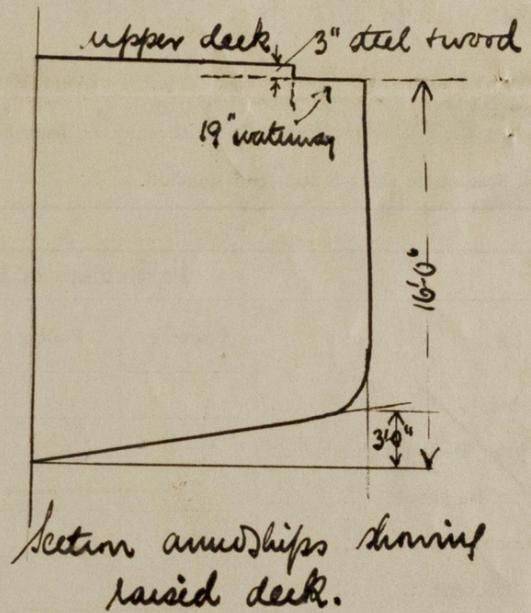
**RETAIN**

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

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:—



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