

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for ~~Steamer~~ Sailing Ship, Tanker
having RAISED QUARTER DECK TRUNK AND FORECASTLE

Port of Survey LONDON

Date of Survey 11th JAN^y 1933

Name of Surveyor G. Scantlebury

Particulars of Classification 100A1
FOR CARRYING PETROLEUM IN BULK

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<u>CONSTANCE H</u>	<u>BRITISH HULL</u>	<u>162205</u>	<u>155</u>	<u>1930. 12 Mo</u>

Moulded Dimensions: Length 120.0 Breadth 17.0 Depth 7.9 1/2

Moulded displacement at moulded draught = 85 per cent. of moulded depth 277 tons

Coefficient of fineness for use with Tables .718

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>7.79</u>	(a) Where D is greater than Table depth (D - Table depth) R =	Moulded Breadth (B) <u>17.0</u>
Stringer plate <u>.02</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} =$ <u>4.08</u>
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ <u>✓</u>	<u>(8.00 - 7.81) .923 = -.18</u>	Ship's Round of Beam = <u>5</u>
Depth for Freeboard (D) = <u>7.81</u>	If restricted by superstructures <u>YES - NIL</u>	Difference <u>.92</u>
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.92}{4} \times .3127 =$ <u>-.07</u>

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	<u>32.0</u>	<u>32.00</u>	<u>2.3</u>	<u>2.25/3.133</u>	<u>22.98</u>
" overhang					
Bridge enclosed					
" overhang aft					
" overhang forward					
F'cle enclosed	<u>16.0</u>	<u>16.00</u>	<u>2.6</u>	<u>3.5/6.0</u>	<u>9.33</u>
" overhang					
Trunk aft					
" forward	<u>61.9 x 9.8</u>	<u>34.48</u>	<u>2.3</u>	<u>2.25/6.0</u>	<u>12.93</u>
Tonnage opening aft					
" " forward					
Total	<u>48.00</u>	<u>82.48</u>			<u>45.24</u>

Standard Height of Superstructure 6.00

" " R.Q.D. 3.133

Deduction for complete superstructure 18.00

Percentage covered $\frac{S}{L} =$ 40.00

" " $\frac{S_1}{L} =$ 68.73

" " $\frac{E}{L} =$ 37.70

Percentage from Table, Line A.
(corrected for absence of forecastle (if required))

Percentage from Table, Line B. Tanker 28.70
(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = - 5.17

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P.	<u>22.00</u>	<u>1</u>	<u>22.00</u>	<u>27.25</u>	<u>22.00</u>	<u>1</u>	<u>22.00</u>
$\frac{1}{8}L$ from A.P.	<u>9.79</u>	<u>4</u>	<u>39.16</u>	<u>12.05</u>	<u>9.79</u>	<u>4</u>	<u>39.16</u>
$\frac{2}{8}L$ "	<u>2.42</u>	<u>2</u>	<u>4.84</u>	<u>3.01</u>	<u>2.42</u>	<u>2</u>	<u>4.84</u>
Amidships		<u>4</u>				<u>4</u>	
$\frac{3}{8}L$ from F.P.	<u>4.84</u>	<u>2</u>	<u>9.68</u>	<u>3.38</u>	<u>3.38</u>	<u>2</u>	<u>6.76</u>
$\frac{1}{8}L$ "	<u>19.58</u>	<u>4</u>	<u>78.32</u>	<u>13.53</u>	<u>13.53</u>	<u>4</u>	<u>54.12</u>
F.P.	<u>44.00</u>	<u>1</u>	<u>44.00</u>	<u>33.50</u>	<u>33.50</u>	<u>1</u>	<u>33.50</u>
Total			<u>198.00</u>				<u>160.38</u>

Mean actual sheer aft = Excess
Mean standard sheer aft =

Mean actual sheer forward = Deficient
Mean standard sheer forward =

Length of enclosed superstructure forward of amidships = 3 sheer deficient
" " aft of " =

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{37.62}{18} (.75 - .20) = +1.15$

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.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{.718 + .68}{1.36} = \frac{1.398}{1.36}$
Depth to Freeboard Deck = <u>7.81</u>	$\Delta =$	Depth Correction
Summer freeboard = <u>.69</u>	Tons per inch immersion at summer load water line	Deduction for superstructures
Moulded draught (d) = <u>7.12</u>	T =	Sheer correction
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>1.78</u> $1\frac{3}{4}$	Deduction = $\frac{\Delta}{40T}$ inches =	Round of Beam correction
Addition for Winter North Atlantic Freeboard (if required) =		Correction for Thickness of Deck amidships
		Other corrections, scantlings, etc.
		Summer Freeboard = <u>8.24</u>

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

Tropical Fresh Water Line above Centre of Disc	Tropical Fresh Water Freeboard
Fresh Water Line " "	Fresh Water " "
Tropical Line " "	Tropical " "
Winter Line below " "	Winter " "
Winter North Atlantic Line " "	Winter North Atlantic " "

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Description of Hatchway		Nº 1	Nº 2	Nº 3	Nº 4					
Dimensions of Hatchway		20 24"x18"								
COAMINGS	Height above Deck ...	9"								
	Thickness { Sides ...	5" B.A.								
	{ Ends ...									
	Stiffeners		AS Nº 1	AS Nº 1	AS Nº 1					
	Brackets, Stays									
HATCH BEAMS	Number									
	Spacing									
	Scantling and Sketch ...									
			OIL TIGHT	HATCHES						
	Bearing Surface									
FORE AND AFTERS	Number									
	Spacing									
	Unsupported Lengths ...									
	Scantling* and Sketch ...									
	Bearing Surface									
HATCH COVERS	Material	PLATE COVER								
	Thickness	O.T.								
	How fitted	SEALING WITH GULF	AS Nº 1	AS Nº 1	AS Nº 1					
	Bearing Surface	OUTER PLATE								
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 fiddle, funnel and ventilator coamings:—

Fiddle funnel and vents in efficient condition No skylight not grating

Particulars of Flush Bunker Scuttles:—

One 14" bayonet type scuttle in forecable deck. to chain locker.

Particulars of Companionways:—

One steel companion 2-6' x 2-10' x 6-0' high to forecable Door of hatch with 26" sill operated from both side.
 One steel companion built in casing in R.Q. Deck. Door of hatch with 20" sill operated from both side

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

2 Vents in forecable deck. 6" dia coamings x 33" x 30 led to forecable.
 Efficient Closing provided

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

2 B.S. air pipes in forecable deck. 2" high x 2" dia from ballast tanks
 2 " " " freeboard " 2-6' x 1 1/2 " " " forward of forecable
 3 " " " R.Q. Deck 18 1/2 " x 1 3/4 " " " ballast tanks
 Efficient Closing provided

Particulars of Gangway Cargo and Coaling Ports:—



© 2021

Lloyd's Register Foundation

Particulars of Scuppers and Sanitary Discharge Pipes:—

One Sanitary discharge from W.C. above freeboard deck. fitted with storm valve.

Particulars of Side Scuttles:—

All fitted with hinged deadlight.

Particulars of Guard Rails:—

On forecastle deck. 2-6" high with two chains and stanchions 5-0" apart.
On freeboard deck. 3-2 " " three rods. " " 5-0"
Bulkheads on R.Q. Deck. 2-0" high.

Particulars of Gangways, Lifelines, etc.:—

Hand rails and stanchions along starboard side of trunk all fore and aft. 3-0" high with two wires and stanchions 5-0" apart.

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:—
(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:—

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 ...	30	30	4" x 2 1/2" x 30	24"	B.K.T. T 9 B.	None.	✓	2-3"
Bridge, After Bulkhead								
Bridge, Forward Bulkhead								
Forecastle Bulkhead	30	30	4" x 2 1/2" x 30	24"	B.K.T. T 9 B.	4-0" x 23"	26"	2-6"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	30	30	3" x 2 1/2" x 36	24"	B.K.T. @ Top.	2 @ 4-0" x 23"	20"	6-0 - 4-0"
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 ...	No openings. ✓
Bridge, After Bulkhead	
Bridge, Forward Bulkhead	
Forecastle Bulkhead	Wood doors operated from both sides.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	Steel doors operated from both sides.
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships ...	

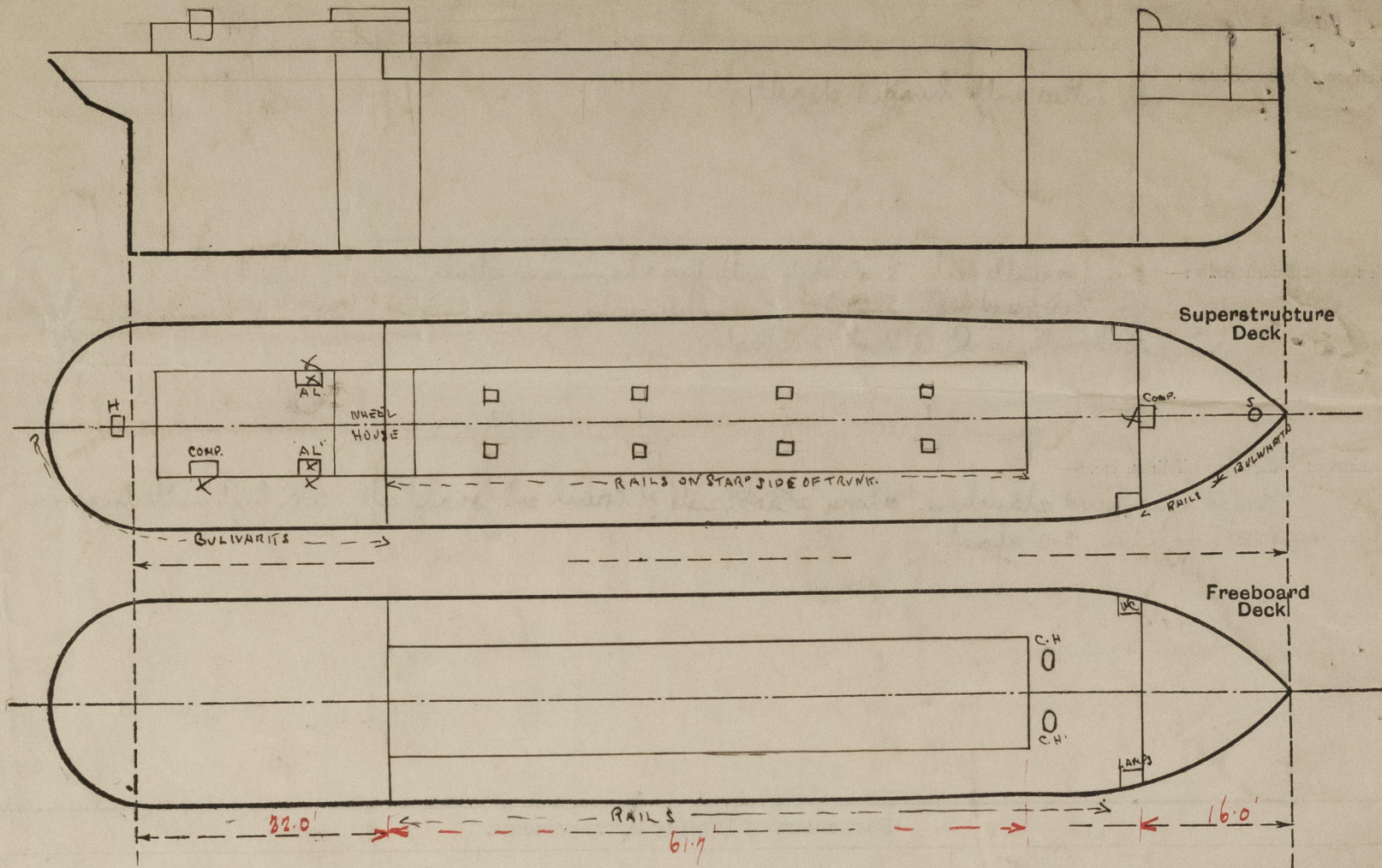


© 2021

Lloyd's Register Foundation

Cambridge H.

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:—



Survey carried out afloat and confined to the above.

$$7 \text{ trunks } 61.7 \times \frac{9.5}{17.0} = 34.48 \times \frac{2.25}{6.0} = 12.93$$

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

Small hatch in Raised Quarter Deck (H) 2-0' x 1-6' x 2-0' high fitted with wood cover tarpaulin and battering arrangement.
 In way of doors in machinery casing there are air locks R.S. (A.L.) built of steel with steel hinged doors operated both sides as well as the steel door in casing.
 Forward of the trunk on the freeboard deck are two manholes (C.H.) to cofferdam 12" x 18" x 1/2" high fitted with W.T. bolted manhole cover plate.

Builder's name and yard number J. HARKER L^d. NO 28

Names of sister ships

Owners J. HARKER L^d.

Fee £ 3 8 0 }
 Exp. 2 2 9 }

Received by me

(a/c 16 JAN 1933)



© 2021

Lloyd's Register Foundation