

Rpt. G.11.

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker
 having Well Deck & Raised Quarter Deck

Port of Survey NEWPORT

Date of Survey 12th April

Name of Surveyor D. Macfarlane

Particulars of Classification 8/100A1

(Type of Superstructures.)

KIRKWOOD
 Ship's Name

ASHTREE
 Nationality and Port of Registry

British
London

147646
 Official Number

1561
 Gross Tonnage

1924-5
 Date of Build

Moulded Dimensions: Length 244.0 Breadth 36.5 Depth 18.1

Moulded displacement at moulded draught = 85 per cent. of moulded depth 3053 tons

Coefficient of fineness for use with Tables .781

Depth for Freeboard (D)

Moulded depth 18.1

Stringer plate04

Sheathing on exposed deck

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

Depth for Freeboard (D) = 18.12

Depth correction

(a) Where D is greater than Table depth
 (D - Table depth) R =
(18.12 - 16.27) 1.877 = +3.47

(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) 36.5

Standard Round of Beam = $\frac{B \times 12}{50} =$ 8.76

Ship's Round of Beam = 9.25

Difference .49

Restricted to .2992

Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S}{L} \right) = \frac{.49}{4} \times (1 - .7008) =$.035

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>144.7</u>	<u>144.58</u>	<u>3.7</u>	<u>3.58</u>	<u>130.75</u>	
" overhang ...						
Bridge enclosed ...			<u>8.0</u>			
" overhang aft ...						
" overhang forward ...	<u>25.37</u>	<u>25.37</u>			<u>25.37</u>	
F'cle enclosed ...	<u>24.6</u>		<u>4.0</u>			
" overhang ...	<u>2.13</u>	<u>1.06</u>			<u>1.06</u>	
Trunk aft ...						
" forward ...						
Tonnage opening aft ...						
" " forward ...						
Total ...	<u>172.08</u>	<u>171.01</u>			<u>157.18</u>	

Standard Height of Superstructure 6.0

" " R.Q.D. 3.96

Deduction for complete superstructure 30.4

Percentage covered $\frac{S}{L} =$ 70.52%

" " $\frac{S_1}{L} =$ 70.08%

" " $\frac{E}{L} =$ 64.42%

Percentage from Table, Line A. 53.51%
 (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 = 30.4 × .5351 = -16.27

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	<u>34.40</u>	1		<u>34.40</u>	<u>36.00</u>	<u>36.00</u>	1		<u>36.00</u>	
$\frac{1}{4}$ L from A.P. ...	<u>15.31</u>	4		<u>61.24</u>	<u>16.19</u>	<u>16.19</u>	4		<u>64.76</u>	
$\frac{3}{4}$ L " ...	<u>3.78</u>	2		<u>7.56</u>	<u>4.04</u>	<u>4.05</u>	2		<u>8.10</u>	
Amidships ...	<u>X</u>	4		<u>✓</u>	<u>✓</u>	<u>✓</u>	4		<u>✓</u>	
$\frac{3}{4}$ L from F.P. ...	<u>7.57</u>	2		<u>15.14</u>	<u>7.88</u>	<u>7.90</u>	2		<u>15.80</u>	
$\frac{1}{4}$ L " ...	<u>30.62</u>	4		<u>122.48</u>	<u>31.16</u>	<u>31.60</u>	4		<u>126.40</u>	
F.P. ...	<u>68.80</u>	1		<u>68.80</u>	<u>72.00</u>	<u>72.00</u>	1		<u>72.00</u>	
Total ...	<u>✓</u>			<u>309.62</u>					<u>323.06</u>	<u>.3974</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 = .0925

" " aft of " = .50

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{13.44}{18} \times (.75 - .3526) = - .30$

If limited on account of midship superstructure. -.30 × .1925 = -.058

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.

R.Q.D. 21.70 Ft.

Depth to Freeboard Deck = 21.70

Summer freeboard = 5.27

Moulded draught (d) = 16.43

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 4.11 = 4"

Addition for Winter North Atlantic Freeboard (if required) = 2"

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$ 3297

Tons per inch immersion at summer load water line

T = 18.00

Deduction = $\frac{\Delta}{40 T}$ inches = 4.58

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.781 + .68}{1.36} = \frac{1.461}{1.36}$

Depth Correction 3.47

Deduction for superstructures 16.27

Sheer correction29

Round of Beam correction04

Correction for Thickness of Deck amidships 43.00

Other corrections, scantlings, etc. 46.47

Summer Freeboard = 63.28

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, RAISED QUARTER Deck: 5'-3 1/4"

Tropical Fresh Water Line above Centre of Disc	<u>82"</u>
Fresh Water Line	<u>42"</u>
Tropical Line	<u>4"</u>
Winter Line below	<u>4"</u>
Winter North Atlantic Line	<u>6"</u>

Tropical Fresh Water Freeboard	<u>✓</u>
Fresh Water	<u>✓</u>
Tropical	<u>✓</u>
Winter	<u>✓</u>
Winter North Atlantic	<u>✓</u>

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

		1	2	3	4						
Hatchway		20' x 21' 6" x 26'	32' x 26' 0"	28' 0" x 25' 6"	26' x 21' 6" x 22' 6"						
HATCH BEAMS	Height above Deck ...	51" ✓	57" ✓	39" ✓	39" ✓						
	Thickness { Sides ...	44" ✓	44" ✓	44" ✓	44" ✓						
	Thickness { Ends ...	44" ✓	44" ✓	44" ✓	44" ✓						
	Stiffeners ...	7 x 3 x 5/8" ✓	7 x 3 x 5/8" ✓	7 x 3 x 5/8" ✓	7 x 3 x 5/8" ✓						
	Brackets, Stays ...	3 ✓	3 ✓	3 ✓	3 ✓						
HATCH BEAMS	Number ...	5 ✓	6 ✓	5 ✓	5 ✓						
	Spacing ...	5' 0" ✓	4' 9" ✓	4' 8" ✓	4' 1" ✓						
	Scantling and Sketch ...	20' 10" x 48' ✓ 5' x 3 1/2" x 46' ✓	14 1/2' x 42' x 36' ✓ 5' x 3 1/2" x 37' ✓	14 1/2' x 38' x 30' ✓ 5' x 3 1/2" x 31' ✓	15' 9" x 35' ✓ 5' x 3 1/2" x 46' ✓						
	Bearing Surface ...	3 1/2" ✓	3 1/2" ✓	3 1/2" ✓	3 1/2" ✓						
FORE AND AFTERS	Number ...										
	Spacing ...										
	Unsupported Lengths ...										
	Scantling* and Sketch ...										
	Bearing Surface ...										
HATCH COVERS	Material ...	W.P. ✓	W.P. ✓	W.P. ✓	W.P. ✓						
	Thickness ...	2 1/2" ✓	2 1/2" ✓	2 1/2" ✓	2 1/2" ✓						
	How fitted ...	F.A. ✓	F.A. ✓	F.A. ✓	F.A. ✓						
	Bearing Surface ...	5' 10 1/2" x 5' ✓	5' 10 1/2" x 5' ✓	5' 10 1/2" x 5' ✓	5' 10 1/2" x 5' ✓						
Spacing of Cleats ...		74" ✓	74" ✓	74" ✓	74" ✓						
Number of Tarpaulins ...		2 ✓	2 ✓	2 ✓	2 ✓						

*Are wood fore and afters steel shod at all bearing surfaces? *Yes* ✓
 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 fiddle, funnel and ventilator coamings:— *Slot-hold gratings covered by strong steel hinged covers. ✓
 Sidelley funnel & ventilator coamings in efficient condition. ✓
 Engine room skylight of steel strongly constructed. ✓*

Particulars of Flush Bunker Scuttles:— *None* ✓

Particulars of Companionways:— *None* ✓

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

*On R.A.D. 1 vent 12" dia coaming 36" high x 38" to head ✓
 " 1 " 16" " 36" " x 38" hors hold ✓
 " 2 " 12" " 30" " x 38" to Bunkers ✓
 " 1 " 16" " 30" " x 38" to 3 hold ✓
 On Well 1 vent 16" dia coaming 36" x 38" to 2 hold ✓
 " 1 " 16" " 30" x 38" to 2 hold ✓
 On fore 1 " 16" " 23" x 38" to 1 hold ✓
 " 1 " 9" " 36" x 22" to fore peak tank ✓
 (also air pipe) ✓
 All vents fitted with wood plugs or covers. ✓*

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

*On R.A.D. 1 air pipe 4 1/2" dia 2.14 to after peak tank ✓
 " 1 " 3 1/2" x 36" " to 3 hold ✓
 " 2 " 3 1/2" x 36" " to 3 hold ✓
 " 2 " 3 1/2" x 36" " to E. 3 hold ✓
 On Well 1 air pipe 3 1/2" dia 36" high to 3 hold ✓
 " 1 " 3 1/2" " 36" " " " " ✓
 On fore 1 " 3" " 4" " " " " ✓
 No opening holes in air pipes ✓
 Wood plugs or covers cover fitted to all air pipes ✓*

Particulars of Gangway Cargo and Coaling Ports:— *None* ✓



Kirkwall, Orkney

Particulars of Scuppers and Sanitary Discharge Pipes —

Scuppers in R.D. well still stamped foreways
Soil pipes fitted with 4 in. Storm valves at Scupper side ✓

Particulars of Side Scuttles:

All scuttles fitted with hinged deadlights ✓

Particulars of Guard Rails:—

Two rails & stanchions 4.9" apart. 3.3" high ✓

Particulars of Gangways, Lifelines, etc.:—

One wood gangway fitted between No 1 & 2 hatches on Lft side only.

Lifelines fitted over hatches in well with efficient gangway
between hatches, and stanchions as required.

Particulars of Freeing Arrangements.

	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
RED After Well	144'-7" 124'-0"	3'-6"	3'-0" x 1'-8"	7	34.86 sq ft ✓	28.9 24.4 sq ft
Forward Well	71'-7" 48'-0"	4'-2"	3'-0" x 1'-8"	6	29.88 sq ft ✓	14.3 sq ft
State position of each freeing port } After Well: 1. 6.4' forward of L aft 6.4' - 38.4' - 56.6' - 73.6' - 91.6' - 109.0' - 117.3' (F. and A. position and height above deck edge) } Forward Well: 5.8' - 16.2' - 26.3' - 38.0' - 52.9' - 64.3' Edge port 12' above Deck State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— Shutters.						
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 ...	✓	1/4"	Deep brackets & spacing plates 38" angles 3x3x3 ✓	30"	Brackets at bottom ✓			3'-7" ✓
Bridge, After Bulkhead			Light stiffeners 3x2 x 3x3 ✓		Lugs at top at light stiffeners			
Bridge, Forward Bulkhead								
Forecastle Bulkhead	✓	30" ✓	3x3 x 25" ✓	30" ✓	Nil	4'-3" x 1'-11" ✓	20" ✓	4'-0" ✓
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	38" ✓	32" ✓	4x3 x 32" ✓	30" ✓	Nil ✓	4'-3" x 1'-11" ✓	20" ✓	8'-0" ✓
Exposed Machinery Casings on Super-structure Decks								
Machinery Casings within Superstructures not fitted with Class I Closing Appliances								
Deckhouses on Flush Deck Ships ...								

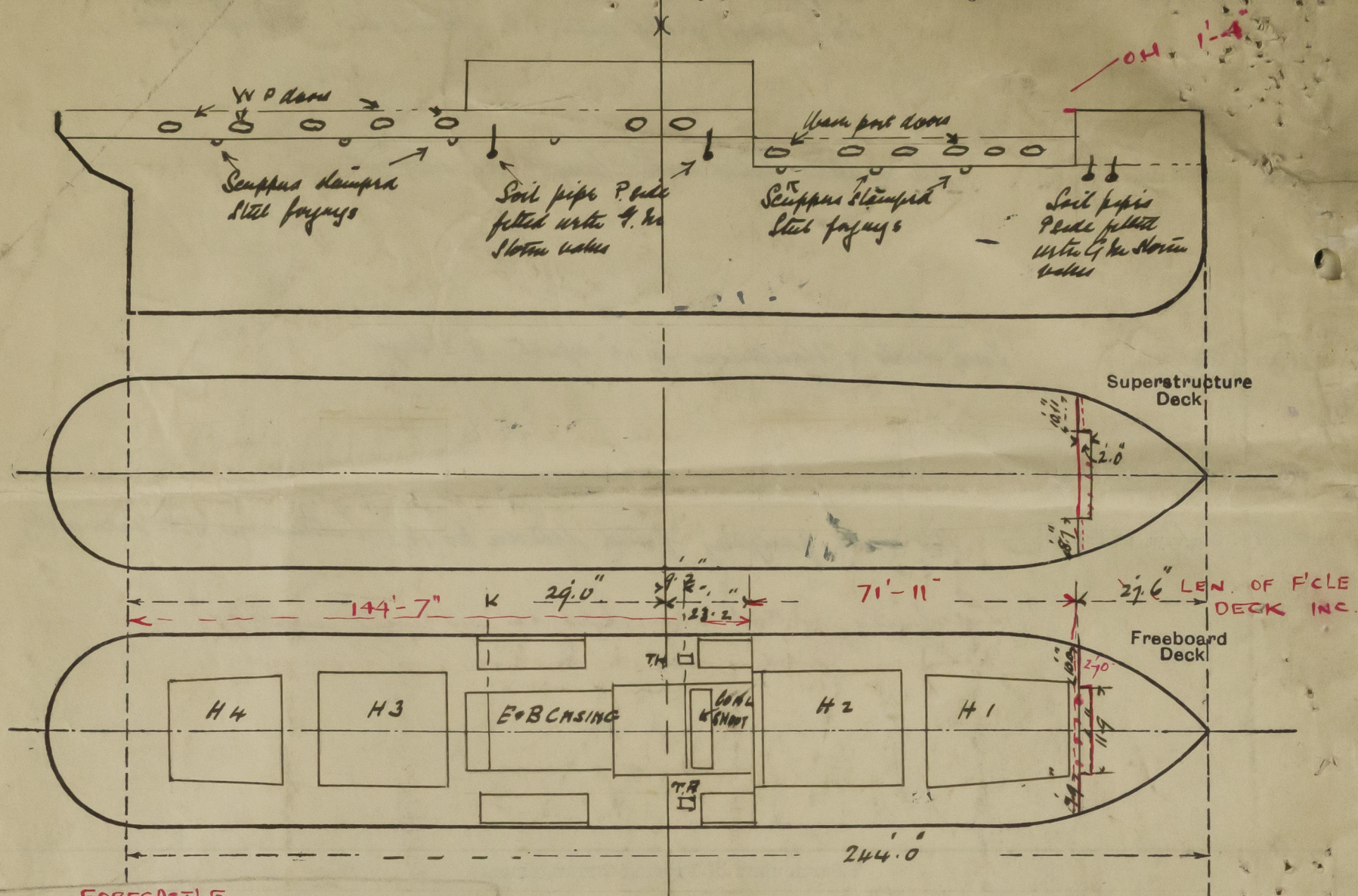
Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead	✓
Raised Quarter Deck Bulkhead ...	None ✓
Bridge, After Bulkhead	✓
Bridge, Forward Bulkhead	✓
Forecastle Bulkhead	✓
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓
Exposed Machinery Casings on Super-structure Decks	✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓
Deckhouses on Flush Deck Ships ...	✓

Forecastle Bulkhead 1 1/2" + steel hinged doors operated from both sides ✓
Exposed Machinery Casings on Free-board or Raised Quarter Decks ... ✓
Exposed Machinery Casings on Super-structure Decks ... ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ✓
Deckhouses on Flush Deck Ships ... ✓

Kinkwood

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:—



FORECASTLE

LEN = 26'-2"
 = 26.17' *omit*
 LESS $\frac{11.75 \times 2}{29.5} = \frac{.80}{25.37} = \text{Eqns encl.}$
 2.13 = O.H.

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

Wood sheathing on fore head 2 1/2" P. Coal shed at fore head 17.6 x 14.0 coaming 9 x 3 x 5 R.R. cut bars 3" with chole. battens 2 tarpaulins. Holes covers 2 1/2" x 8".
 Trummy battens on R.R.D 18 x 14 coaming 18 high x 3. cut ends 2" chole. battens 2 tarpaulins 2 W.P. lines.
 After end of No 1 hatch stayed with hadlets. Fore end of No 2 Holes stayed by 1. Bulk plate stay.
 After end of No 2 Holes trummed to R.R.D. Bulk head. After end of No 3 Hatch stayed by 1. B. plate
 Stiffener. Fore & after ends stayed by 1. B. plate stiffener.

1512 tons D.W. at 13.0 draught

1725	14.0
1950	15.0
2162.5	16.0
2300	16.7 1/2

85% wld = 15.37

Kel = $\frac{.17}{15.54} = 15'-6 \frac{1}{2}"$

$\Delta @ \text{ex ds } 16'-7" = 3293 + \text{TPI} = 18.00$

$12 \frac{1}{2} \times 18 = \frac{225}{3068 \times .995 = 3053}$

FRESH WATER

M.L.D. = 16.43

Kel = $\frac{.17}{16.60} = 16'-7 \frac{1}{4}"$

$\Delta = 3297 + \text{TPI} = 18.00$

Builder's name and yard number

Craig Taylor & Co Ltd

Names of sister ships

Owners

Iron Steamship Co Ltd (Howard Jones Ltd mngrs)

Fee £

9 : 4 : 0

Received by me



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