

00238-002150-00601

26 APR 1933

Rpt. C.11.

Index. No. 19278
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

2477

Computation of Freeboard for Steamer, Sailing Ship, Tanker					Port of Survey <u>Barrow.</u>
having <u>Complete Superstructure with Centre line openings</u>					Date of Survey <u>Feb 15 & 16 & April 24 " 1933</u>
(Type of Superstructures.)					Name of Surveyor <u>J. Hodgson.</u>
Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build	Particulars of Classification
<u>"VIKING"</u>	<u>British</u> <u>Douglas. I. of M.</u>	<u>118604</u>	<u>1764</u> <u>1954</u>	<u>1905</u>	<u>A1.</u> <u>Shelter OK with freeboard.</u> <u>Hish Channel. Service</u>
Moulded Dimensions: Length <u>350.0</u>		Breadth <u>41.83</u>	Depth <u>17.25</u> ^{WT/L 20.8.46} _(85% = 14.66)		
Moulded displacement at moulded draught = 85 per cent. of moulded depth		<u>3399</u> tons			
Coefficient of fineness for use with Tables <u>.554</u>		<u>(.68 lowest)</u>			

Depth for Freeboard (D)		Depth correction	Round of Beam correction
Moulded depth ...	<u>17.25</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>✓</u>	Moulded Breadth (B) <u>41.83</u>
Stringer plate ...	<u>0.35</u>	(b) Where D is less than Table depth (if allowed) <u>✓</u> (Table depth - D) R = <u>(23.33 - 17.29) 2.672</u>	Standard Round of Beam = $\frac{B \times 12}{50} = \underline{10.04}$
Sheathing on exposed deck	<u>.01</u>	<u>= 16.26</u>	Ship's Round of Beam = <u>10"</u>
$T \left(\frac{D-S}{L} \right) = \frac{2.5}{12} \left(\frac{18.5}{350} \right)$	<u>0.43</u>	If restricted by superstructures <u>Yes.</u> <u>NIL</u>	Difference <u>.04 deficient</u>
Depth for Freeboard (D) =	<u>17.548</u>		Restricted to
			Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.04}{4} \times .513 = +.01$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	<u>8.5</u>	<u>8.50</u>	<u>8.0</u>		<u>8.50</u>	Standard Height of Superstructure <u>7.00</u>
" overhang ...	<u>99.5</u>	<u>49.75</u>	"		<u>49.75</u>	" " R.Q.D. <u>✓</u>
R.Q.D. enclosed ...						Deduction for complete superstructure <u>38.67</u>
" overhang ...						Percentage covered $\frac{S}{L} = \underline{74.72\%}$
Bridge enclosed... open...	<u>136.0</u>	<u>68.00</u>	<u>8.0</u>		<u>68.00</u>	" " $\frac{S_1}{L} = \underline{48.70\%}$
" overhang aft ...						" " $\frac{E}{L} = \underline{48.70\%}$
" overhang forward						Percentage from Table, Line A. <u>30.89%</u>
F'cle enclosed... open...	<u>87.5</u>	<u>44.20</u>	<u>8.0</u>		<u>44.20</u>	(corrected for absence of forecastle (if required))
" overhang ...						Percentage from Table, Line B. <u>34.89%</u>
Trunk aft ...						(corrected for absence of forecastle (if required))
" forward ...						Interpolation for bridge less than 2L (if required) <u>30.89 + (68/70 * 4) = 34.78%</u>
Tonnage opening aft ...	<u>8.6</u>					Deduction = <u>38.67 * 34.78 = -13.45</u>
" " forward	<u>10.0</u>					
Total ...	<u>331.50</u>	<u>170.45</u>			<u>170.45</u>	

Sheers of Freeboard Deck as measured. afloat.

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	<u>45.00</u>	1		<u>45.00</u>	<u>25</u>	<u>25.00</u>	1		<u>25.00</u>	Mean actual sheer aft = <u>Deficient</u>
1/4 L from A.P. ...	<u>20.02</u>	4		<u>80.08</u>	<u>4 1/2</u>	<u>7.50</u>	4		<u>30.00</u>	Mean actual sheer forward = <u>Deficient</u>
1/2 L " ...	<u>4.95</u>	2		<u>9.90</u>	<u>1</u>	<u>1.00</u>	2		<u>2.00</u>	Mean standard sheer forward
Amidships ...	<u>0</u>	4		<u>0</u>	<u>0</u>	<u>0</u>	4		<u>0</u>	Length of enclosed superstructure forward of amidships = } sheer
3/4 L from F.P. ...	<u>9.90</u>	2		<u>19.80</u>	<u>5 1/2</u>	<u>5.50</u>	2		<u>11.00</u>	" aft of " = } deficient
1/4 L " ...	<u>40.04</u>	4		<u>160.16</u>	<u>20 1/2</u>	<u>20.50</u>	4		<u>82.00</u>	Forward sheer
F.P. ...	<u>90.00</u>	1		<u>90.00</u>	<u>45</u>	<u>45.00</u>	1		<u>45.00</u>	Standard
Total ...	<u>405</u>			<u>404.94</u>					<u>195.00</u>	29.70
										120.12
										90.00
										239.82
										123.00 = 51.28% standard

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{209.94}{18} \left(.75 - \frac{4736}{2764} \right) = +3.22"$

If limited on account of midship superstructure. ✓

If limited to maximum allowance of 1 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	<u>56.50</u>
Depth to Freeboard Deck = <u>17.49</u> Ft.	$\Delta = \underline{26.07}$		<u>56.50</u>
Summer freeboard = <u>5.60</u>	Tons per inch immersion at summer load water line	Depth Correction ...	
Moulded draught (d) = <u>11.89</u>	$T = \underline{23.3}$	Deduction for superstructures ...	<u>13.45</u>
Deduction for Tropical freeboard and addition for	Deduction = $\frac{\Delta}{40T}$ inches	Sheer correction ...	<u>3.22</u>
Winter freeboard = $\frac{d}{4}$ inches = <u>✓</u>	$= \underline{2.8}$ ^{1906 = 32}	Round of Beam correction ...	<u>.01</u>
Addition for Winter North Atlantic Freeboard (if required) = <u>✓</u>	At ext draught of 12.0 $\Delta = 26.07$ $T = 23.3$	Correction for Thickness of Deck amidships ...	<u>2.38</u>
	" " " 12.6 $\Delta = 27.48$ $T = 23.53$	Other corrections, scantlings, etc. <u>and 15 correction</u>	<u>18.59</u>
		Summer Freeboard = <u>67.25</u>	

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line

Tropical Fresh Water Line above Centre of Disc ...	<u>3 1/2</u>	Tropical Fresh Water Freeboard ...	<u>5' 3 3/4</u>
Fresh Water Line " " ...	<u>NIL</u>	Fresh Water " " ...	<u>5' 7 1/4</u>
Tropical Line " " ...	<u>✓</u>	Tropical " " ...	<u>✓</u>
Winter Line below " " ...	<u>NIL</u>	Winter " " ...	<u>✓</u>
Winter North Atlantic Line " " ...	<u>✓</u>	Winter North Atlantic " " ...	<u>✓</u>

8 APR 1933

RECEIVED 25 JUN 1933
RECEIVED 26 MAY 1933

PARTICULARS OF PROTECTION TO OPENING, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS					
Description of Hatchway					
Dimensions of Hatchway					
COAMINGS	Height above Deck ...	18'			
	Thickness { Sides38'			
	{ Ends38'			
	Stiffeners ...				
	Brackets, Stays ...	✓			
HATCH BEAMS	Number ...				
	Spacing ...				
	Scantling and Sketch ...	✓			
	Bearing Surface ...				
FORE AND AFTERS	Number ...				
	Spacing ...				
	Unsupported Lengths ...				
	Scantling* and Sketch ...	✓			
	Bearing Surface ...				
HATCH COVERS	Material ...	Steel			
	Thickness38'			
	How fitted ...	Watertight			
	Bearing Surface ...	Butterfly nuts			
Spacing of Cleats					
Number of Tarpaulins		13"			

* 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:—

Funnels, casings ventilators and Coamings above Casing top of Substantial Construction. Engine Room & other Skylights of Steel with Oak tops and Oak hinged flaps with thick glass lights. No Hickey gratings.

Particulars of Flush Bunker Scuttles:—

10 on. Freeboard deck under open Bridge, - east iron bayonet jointed covers / no chain attachment
10 on. Bridge Superstructure deck east iron bayonet jointed covers / no chain attachment

Skylights on Superstructure Deck: - One forward over Fc. 4'-0" x 3'-3"; One over Compⁿ house covering fore main stairways. 5'-3" x 4'-3"; One 4'-3" x 2'-0" & One 3'-9" x 1'-6" over open Bridge.
One over poop 12'-0" x 4'-2", all foregoing have strong steel Coamings 24" high with leak top & hinged flaps with strong glass lights (marked 51). One Skylight on Sep Str Deck
(marked 55) 5'-8" x 4'-3" of teak & Coaming hinged flaps with strong glass lights over Steel trunk to below Freebd deck. One Skylight on Freeboard deck abaft Fc. (marked 55)
5'-0" x 4'-6" x 3'-0" high of Steel with Steel hinged W.T. cover with fixed glass scuttles.

Particulars of Companionways :

Particulars of Companionways:— Companion on Superstructure Deck forward over Fete 5'-0" x 4'-6" x 5'-6" high, of Steel. Wooden hinged doors operated both sides Sill 10"
Steel deckhouse on Supr. Str. Deck aft 8'-0" high of strong construction covering open stairway to poop & below freeboard deck, Hinged teak doors operated both sides Sill 10"
Steel Deckhouse on Freebd " in way fore well 8' high of strong construction covering open stairway to below freeboard deck " " " " " " " " " " port side " " " " " " " " " " "

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:— On Superstructure Deck, forward of $\frac{1}{2}$ L:— 2 Vents 9" diam. Coamings 26 $\frac{1}{2}$ x 36 $\frac{1}{2}$ x 36" to below Fwd Dk
2. Vents 18" diam. Coamings 18 $\frac{1}{2}$ x 26" to below freeboard deck; 5 C.I. Quasenecks. 5 $\frac{1}{2}$ x 10" high to below freeboard deck;
On Superstructure Deck abaft $\frac{1}{4}$ length:— 2 Vents 12" diam. x 36" to 20 Tubes to Boat deck from below freeboard deck;— 2 Vents 15" diam. 20 Tubes to Boat
deck from below freeboard deck. 1 Vent 21" diam. Coaming 19" x 28" to Tunnel 1 Vent 6" diam Coaming 21" x 25" to After Peak.
Ventilating hatch over Steering Engine 24" x 24" Coaming 18" x 38" Steel Watertight Cover

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

1 air pipe on Forecastle 5"x3" C.I. goose-neck. 10" high to Fore peak. fitted with wood plug. ✓

Particulars of Gangway Cargo and Coaling Ports:—

1 Watertight, hinged Steel Gunway door port & starboard between foreboard and Sup. SW Deck forward. 4'-0" x 6'-6" efficiently constructed
2 " " " Coaling doors " " " " " " " amidships 3'-0" x 3'-0"
2 " " " " " " " " " " " " " 2'-6" x 2'-3"

Particulars of Scuppers and Sanitary Discharge Pipes:— All scuppers and discharges from Superstructure tween-decks fitted with storm valves at ship side in gunmetal casings. Inboard ends of scupper open; Inboard ends of sanitary discharges fitted with traps. No scuppers or discharges through side from below freeboard deck. Scuppers from weather deck (Superstructure deck) led through ship's side with gunmetal bends but no storm valves fitted.

Particulars of Side Scuttles: between freeboard and Superstructure decks. - 15" x 12" diam and 16 1/4 x 11 1/4" aft in strong hinged brass frames. No deadlights below freeboard deck. 12" diam in strong hinged brass frames with hinged deadlights.

Particulars of Guard Rails:— On Superstructure Deck. 3-6" high stanchions 3-9" apart 4 rails.

Particulars of Gangways, Lifelines, etc.:—

None.

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				None		
Forward Well				None.		

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. 6-6" overhead scuppers each side from open bridge with 2 1/2" scuppers from side houses and poop & fore as shown on sketch.

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	24	24	2 1/2 x 2 1/2 x 26 also 2 1/2 plate flange. also horizontally stiffened by steering engine casing	30 1/2 x 44	none	None.	✓	8'0"
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	24	24	2 1/2 x 2 1/2 x 30 Plates flanged 2 1/2	30	brackets at top	5-3 x 2-3. 1/6 fan flat.	15"	8'0"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	26	24	Plates flanged 2 1/2	36	none continuous.	4-6 x 2-0 5-6 x 2-0	13"	8'0"
Deckhouses on Flush Deck Ships ...								

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

Poop Bulkhead	✓ no openings
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead	open
Bridge, Forward Bulkhead	open
Forecastle Bulkhead	open
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	
Exposed Machinery Casings on Superstructure Decks	Steel hinged weatherlight doors operated both sides
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Steel hinged weatherlight doors operated both sides
Deckhouses on Flush Deck Ships ...	



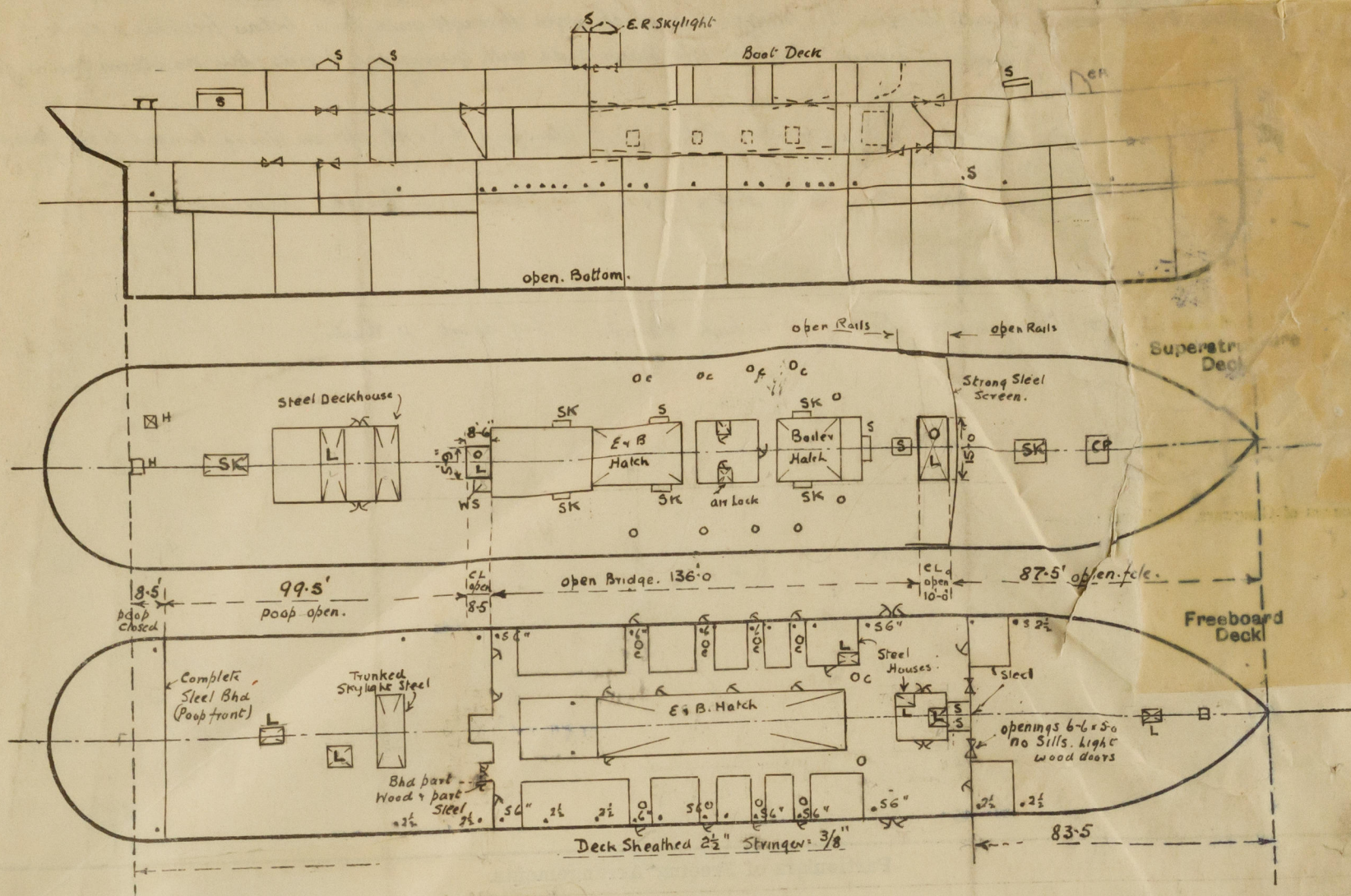
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20909-01200-00602

Viking

Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of plating 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:—



Notes: OL = open unprotected ladderways, L = open ladderways protected by erections or steel deckhouses.
 S = steel skylight with peak top, S.S. = steel skylight with steel top, W.S. = teak skylight, C.R. = steel companion.
 C = flush coaling scuttle, H = escape hatch.

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

The Service of this vessel is restricted to the Irish Channel and the class is subject to a limiting freeboard. The present survey has been held afloat and confined to the parts detailed in this report. The vessel is at present laid up but will be examined in dry dock and the 2nd Special Survey N°3 completed before she is recommissioned for the summer season.

Fee. Total 87.50
 1/10 = 35.00
 Overhaul 52.50
 ÷ 2 = 26.25

35 x 5128 = 17.95
 26.25
 44.20 allowed.

Builder's name and yard number Sir W. G. Armstrong Whitworth & Co. Ltd. N° 459.

Names of sister ships

Owners Isle of Man Steam Packet Co. Ltd.

Fee £ 9 : 7 : 0. Received by me



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