

Newcastle-on-Tyne No. 88353.

[8 APR 1932

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Index. No.

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(For London Office only.)

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker having <u>Combined Poop Bridge & a Forecastle</u>					Port of Survey <u>Newcastle on Tyne</u>	
(Type of Superstructures.) <u>Canada</u>					Date of Survey <u>7 April 1932</u>	
Ship's Name <u>Belle Isle</u>	Nationality and Port of Registry <u>British</u> <u>Newcastle-on-Tyne</u>	Official Number <u>161566</u>	Gross Tonnage <u>1959.92</u>	Date of Build <u>1932</u>	Name of Surveyor <u>H. F. A. Kester</u>	
Moulded Dimensions: Length <u>245.0</u>	Breadth <u>37.5</u>	Depth <u>21.0</u>	Particulars of Classification <u>contemplated + 100 A1 with freeboard</u>			
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>3446</u> tons			" <u>Strengthened for Navigation in ice</u>			
Coefficient of fineness for use with Tables <u>.735</u>						
Depth for Freeboard (D)			Depth correction		Round of Beam correction	
Moulded depth <u>21.0</u>			(a) Where D is greater than Table depth ✓ (D - Table depth) R = <u>(21.03 - 16.33) 4.70</u>		Moulded Breadth (B) <u>37.5</u>	
Stringer plate <u>.03</u>			<u>+ 8.85</u> ✓		Standard Round of Beam = $\frac{B \times 12}{50} = 9.06$	
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$			(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <u>-</u>		Ship's Round of Beam = <u>9.2</u>	
Depth for Freeboard (D) = <u>21.03</u>			If restricted by superstructures <u>-</u>		Difference <u>.5</u>	
					Restricted to	
					Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.5}{4} (1 - .753) = -.03$	

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
<u>Bridge Combined</u>					
Poop enclosed	<u>160.0</u>	<u>160.00</u>	<u>7.5</u>		<u>160.00</u>
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed					
" overhang aft					
" overhang forward	<u>23.21</u>				
F'cle enclosed	<u>25.0</u>	<u>23.24</u>	<u>7.25</u>		<u>23.24</u>
" overhang	<u>1.76</u>	<u>1.36</u>			<u>1.36</u>
Trunk aft					
" forward					
Tonnage opening aft ...					
" " forward					
Total	<u>185.00</u>	<u>184.60</u>			<u>184.60</u>

Standard Height of Superstructure	<u>6.00</u>
" " R.Q.D.	<u>-</u>
Deduction for complete superstructure	<u>30.50</u> ✓
Percentage covered $\frac{S}{L} =$	<u>.7530</u> ✓
" " $\frac{S_1}{L} =$	<u>.7534</u> ✓
" " $\frac{E}{L} =$	<u>.7534</u> ✓
Percentage from Table, Line A.	<u>69.57</u> ✓
(corrected for absence of forecastle (if required))	<u>-</u>
Percentage from Table, Line B.	<u>-</u>
(corrected for absence of forecastle (if required))	<u>-</u>
Interpolation for bridge less than 2L (if required)	<u>-</u>
Deduction = <u>30.50</u> x <u>.6957</u>	<u>= 21.22</u> ✓

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>34.50</u> ✓	1		<u>34.50</u>	<u>21</u>	<u>21.00</u>	1		<u>34.50</u>
$\frac{1}{4}$ L from A.P.	<u>15.35</u>	4		<u>61.40</u>	<u>4 3/4</u>	<u>4.75</u>	4		<u>61.40</u>
$\frac{1}{2}$ L "	<u>3.80</u>	2		<u>7.60</u>	<u>3/8</u>	<u>.62</u>	2		<u>7.60</u>
Amidships		4					4		
$\frac{3}{4}$ L from F.P.	<u>7.59</u>	2		<u>15.18</u>	<u>8 3/8</u>	<u>8.37</u>	2		<u>16.74</u>
$\frac{1}{4}$ L "	<u>30.70</u>	4		<u>122.80</u>	<u>27 1/4</u>	<u>27.25</u>	4		<u>109.00</u>
F.P.	<u>69.00</u>	1		<u>69.00</u>	<u>55 3/4</u>	<u>55.75</u>	1		<u>55.75</u>
Total				<u>310.48</u>					<u>284.99</u>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{25.49}{18} \left(.75 - \frac{184.60}{2 \times 245.0} \right) = 1.53$ ✓

If limited on account of midship superstructure.

Mean actual sheer aft = <u>Even</u>	7.59 3 2277
Mean standard sheer aft	30.70 3 9210
	69.00 1 6900
	<u>8387</u>
Mean actual sheer forward = <u>Defunct</u> .88 ✓	8.37 3 2511
Mean standard sheer forward	27.25 3 8175
	55.75 1 5575
	<u>16261</u>
Length of enclosed superstructure forward of amidships =	
" " aft of " =	

Drop of sheer $1\frac{1}{4}$ " at point 25'-6"
aft of amidships
Height of superstructure sheathing 7'-6"
Standard height 6'-0"

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

Depth to Freeboard Deck =	<u>21.03</u> ✓
Summer freeboard =	<u>5.83</u>
Moulded draught (d) =	<u>15.20</u>

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 3.80 $3\frac{3}{4}$
Addition for Winter North Atlantic Freeboard (if required) = 2

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta = 2885$
Tons per inch immersion at summer load water line
 $T = 17.7$ Deduction = $\frac{\Delta}{40T}$ inches
= 4.09 4"

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient	<u>68.1735</u> <u>1.415</u> <u>1.36</u> <u>1.36</u>	
Depth Correction	<u>8.85</u> ✓	
Deduction for superstructures	<u>-</u>	<u>21.22</u> ✓
Sheer correction	<u>.53</u> ✓	
Round of Beam correction	<u>.03</u> ✓	
Correction for Thickness of Deck amidships	<u>23</u>	
Other corrections, scantlings, etc.	<u>49.33</u>	
	<u>58.69</u> <u>21.25</u> <u>+ 37.44</u>	
	Summer Freeboard = <u>70.00</u> ✓	

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:— 5-10 ✓

Tropical Fresh Water Line above Centre of Disc	<u>7 3/4</u>
Fresh Water Line " "	<u>4</u>
Tropical Line " "	<u>3 3/4</u>
Winter Line below " "	<u>3 3/4</u>
Winter North Atlantic Line " "	<u>5 3/4</u>

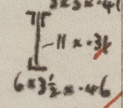
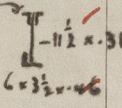
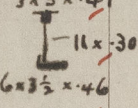
Tropical Fresh Water Freeboard	<u>5-2 1/2</u>
Fresh Water " "	<u>5-6</u>
Tropical " "	<u>5-6 1/4</u>
Winter " "	<u>6-1 3/4</u>
Winter North Atlantic " "	<u>6-3 1/4</u>

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS												
Description of Hatchway			...	...	No 1 Top on U. S.K.	No 2 on U. S.K.	No 3 on U. S.K.	on fore top SK.	on upper SK. for	No 3 Hatch on Bridge SK.		
Dimensions of Hatchway			...	...	14' x 13'	20' x 13'	18' x 13'	2'-3" x 2'-6"	2' x 2'	18' x 13'		
COAMINGS	{	Height above Deck	...	...	30"	30"	thru deck to bridge	18"	18"	18"		
		Thickness { Sides	...	...	1/4"	1/4"	3/16" plating	1/4"	1/4"	1/4"		
		Stiffeners ...	...	...	7 x 3 = 21	7 x 3 = 21	1/2" round	✓	✓	✓		
		Brackets, Stays	...	...	none	none	8" x 6"	✓	✓	none		
HATCH BEAMS	{	Number	...	...	2	3				3		
		Spacing	...	...	4'-8"	5'-0"				4'-6"		
		Scantling and Sketch	...	...			✓			
		Bearing Surface	3"	3"		✓	✓	✓	3"	
FORE AND AFTERS	{	Number	...	...						
		Spacing	...	...						
		Unsupported Lengths	...	...						
		Scantling and Sketch	...	...	✓	✓	✓	✓	✓	✓
		Bearing Surface	...	...						
HATCH COVERS	{	Material	...	...	wood	wood		wood	wood	wood		
		Thickness	...	...	2 1/2"	2 1/2"		2 1/2"	2 1/2"	2 1/2"		
		How fitted	...	...	F & A	F & A	✓	F & A	F & A	F & A		
		Bearing Surface	...	...	3"	3"		3"	3"	3"		
Spacing of Cleats			...	...	21" x 6" at Corners	21" x 6" at Corners	✓	18" x 6" at Corners	12" x 6" at Corners	21" x 6" at Corners		
Number of Tarpaulins			...	...	2	2		2	2	2		

*Are wood fore and afters steel shod at all bearing surfaces? ✓

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:—

Stoke hold gratings Covered by Strong Steel Ringed Covers ✓
Fiddle, funnel & Ventilators in efficient Condition. ✓
Engine skylight of Steel Strongly Constructed. ✓

Particulars of Flush Bunker Scuttles:—

Particulars of Companionways :—

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

3	12	"	"	on F'cle Stk.	to Fore Peak Store	Coaming	30 x .34	✓
1	12	"	"	Upper Stk for well	to " "	8 holds	7-6 x .34	stayed to F'cle Side House
1	12	"	"	"	"	"	6-9 1/2 x .32	to Deck House End
1	12	"	"	Roof	to Hood	"	30 x .32	} above wood deck ✓
1	12	"	"	"	to Cabin accommodation	"	30 x .25	
1	12	"	"	"	to " "	"	30 x .25	
1	12	"	"	"	to Vent. Trunk	"	30 x .25	
5	12	"	"	"	"	"	30 x .25	
4	12	"	"	"	"	"	18 x .25	
1	12	"	"	microon	on Roof	to Accommodation		

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

3	air pipe on F.C. dk.	6	Fore Peak tank	18	high	
2 @ 2 1/2	- - -		to S.B. tank	18	high	✓
2 @ 2 1/2	- - - upper dk.		to S.B. tank	36	high	✓
2 @ 2 1/2	- - -		to S.B. tank & Cofferdam	18		✓
4 @ 2 1/2	- - -		to After Peak tank	18		✓

air pipes have Ball fitted at mouth

Particulars of Gangway Cargo and Coaling Ports :—

none

Belle Isle

Particulars of Scuppers and Sanitary Discharge Pipes

Particulars of Scuppers and Sanitary Discharge Pipes —

2-6" Scuppers from Fiddle ^{tween} Decks fitted with brass Storm Valves at Ship's Sides.
12 Size 1 1/2 to 3" Scuppers from Weather Decks fitted with brass bands; no valves.
2 Size 2" ^{scuppers} from oil filling Station on Upper DK. fitted with Screw plug: no valves.
2 Size 3" accommodation discharges with valves at Ship's Sides Controlled from Poop DK.
12 Size 1 1/2 to 5" we. & cen. " from Poop ^{tween} Decks fitted with Storm Valve at Ship's Sides.
6 @ 4" 3 @ 2 1/2 & 2 @ 2" we. & cen. discharges from Poop ^{tween} Decks. fitted with Storm Valve at Ship's Side.
note. All Storm valves are brass.
The we. c. discharges in addition to having Valve at Ship's Side are of the Valve type.

Particulars of Side Scuttles.

Particulars of Side Scuttles :

Substantial posts in bridge 'twends, provided with hinged deadlights.

Particulars of Guard Rails :—

On F'cle 3'-3" high having two rails & Stanchions 4'-3" apart
On Loop Bridge 3'-6" high having 4 rails & Stanchions 4'-6" apart

Particulars of Gangways, Lifelines, etc. :—

no arrangements at present /

restored draft

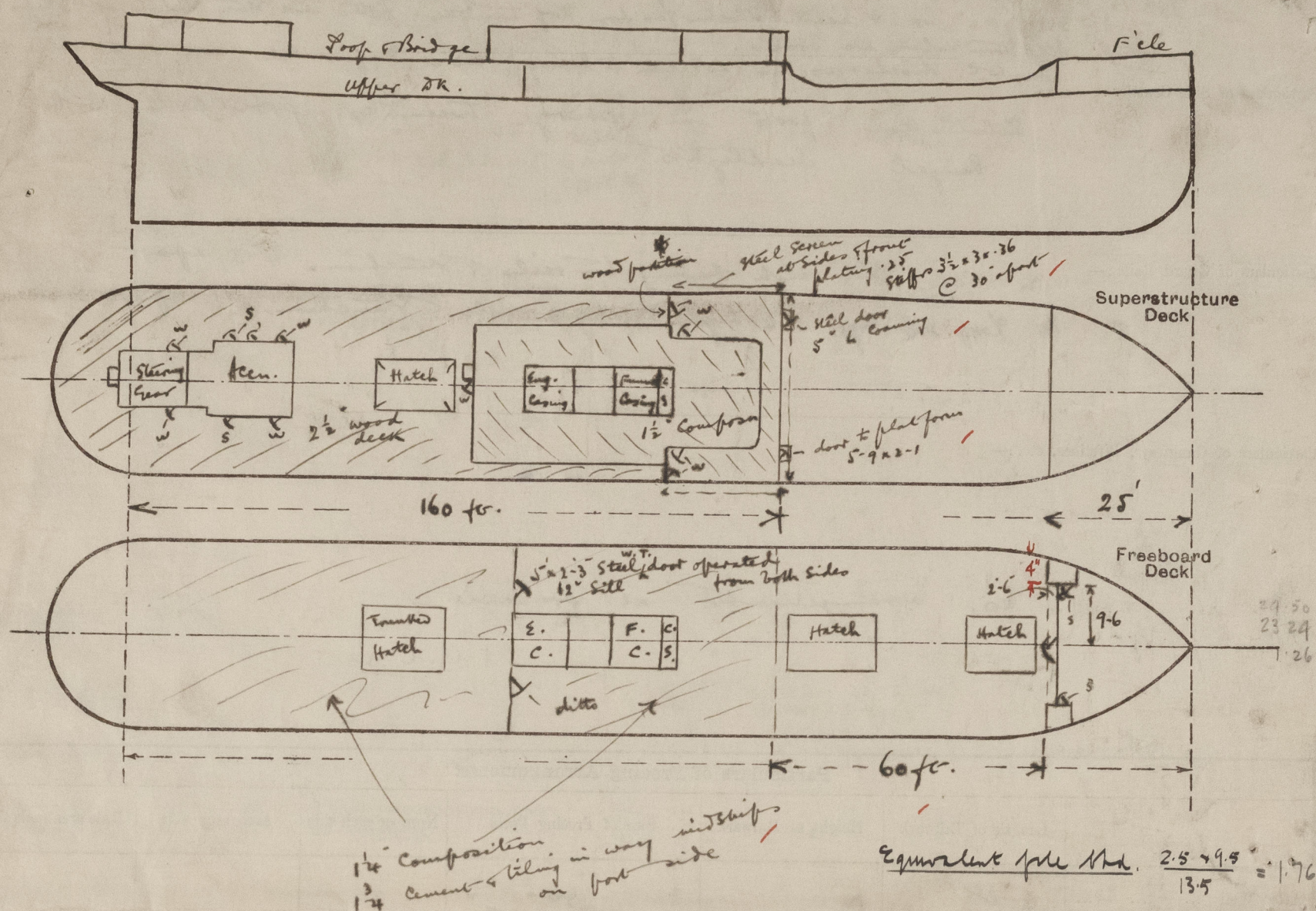
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	✓					
Forward Well	60 ft.	4'-0"	<p>Diagram of a rectangular freeing port. The top edge is labeled with a radius of 9" (9 inches). The bottom edge is labeled with a width of 6' (6 feet).</p>	3	13.1	12.5
<p>State position of each freeing port } After Well: — ✓</p> <p>(F. and A. position and height above deck edge) } Forward Well: — To Centre of port from Bridge front 8' 24" & 41'-6" as per approved plan.</p> <p>State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: — 9' above d.d. to bottom of freeing port.</p> <p>Additional area where sheer is less than standard. no bars fitted ✓</p>						

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	18 x 38 ✓	34 ✓	7½ x 3 = 36 5 ✓	30" ✓	laps top & bottom ✓	none ✓	✓	7'-6" ✓
Forecastle Bulkhead	✓	30 ✓	3½ x 3 = 28 6 ✓	24 ¾ ✓	no laps ✓	5' x 2'-6" ✓	18" ✓	7'-3" ✓
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free-board of Raised Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks	✓	28 5.25 ✓	3½ x 36 2.0" 40 5 ✓	3'-3" ✓	✓	none ✓	✓	7'-6" ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances								
Deckhouses on Poop, after & Fore Deck Slips ...	✓	25 ✓	3 x 30 2.0" 40 5 ✓	27" ✓	✓	4 @ 5-6 x 2-3 3 @ 5-1 x 2-1 ✓	14" above wood dk. ✓	7'-3" ✓

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

Poop Bulkhead	...	...	...
Raised Quarter Deck Bulkhead	...		
Bridge, After Bulkhead	...	...
Combined Top & Bottom Bridge, Forward Bulkhead	...	...	no openings ✓
Forecastle Bulkhead	...	...	W.T. Steel door operated from both sides ✓
Exposed Machinery Casings on Freeboard of Raised Quarter Decks	...	...
Exposed Machinery Casings on Superstructure Decks	...	...	no openings in exposed portion ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...	...
Deckhouses on Poop Deck	...	...	4 wood & 3 steel doors operated from both sides ✓

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:—

Vessel strengthened for navigation in ice /
Scantlings based on draught 15 ft. BK. /

Builder's name and yard number

Swan Hunter & Wigham Richardson Ltd. No 1475 /

Names of sister ships

none

Owners

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