

Lloyd's Register of Shipping. SURVEYS FOR FREEBOARD.

23014.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having *Prop. Bridge & Immense*

Port of Survey **NEWPORT, MON**

Date of Survey *12th Aug 1932*

Name of Surveyor *D. Macfarlane*

Particulars of Classification **R/D/DAL**
S.S. Mech. No. 2-31

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
"ILLINGWORTH"	<i>British Newcastle</i>	145472	6067	1922-1

Moulded Dimensions: Length *429.5* Breadth *55.41* Depth *31.10 1/2*
 Moulded displacement at moulded draught = 85 per cent. of moulded depth *14237* tons
 Coefficient of fineness for use with Tables *.773*

Depth for Freeboard (D)

Moulded depth	31.10 1/2
Stringer plate	<i>.04</i>
Sheathing on exposed deck	<i>.04</i>
$T \left(\frac{L-S}{L} \right) =$	
Depth for Freeboard (D) =	<u>31.91</u>

Depth correction

(a) Where D is greater than Table depth (D-Table depth) R = $(31.91 - 28.63) 3 = + 9.84$

(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)	<i>55.41</i>
Standard Round of Beam = $\frac{B \times 12}{50}$	<i>13.30</i>
Ship's Round of Beam	<i>14.62</i>
Difference	<i>1.32</i>
Restricted to	
Correction = $\frac{Diff}{4} \times \left(1 - \frac{S_1}{L} \right)$	$\frac{1.32}{4} \left(1 - \frac{60.95}{420} \right) = .32$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	<i>36.6</i>	<i>36.50</i>	<i>8.0</i>		<i>36.50</i>
" overhang	<i>10</i>	<i>41</i>			<i>41</i>
R.Q.D. enclosed					
" overhang					
Bridge enclosed	<i>184.6</i>	<i>184.50</i>	<i>8.0</i>		<i>184.50</i>
" overhang aft	<i>3 1/2</i>	<i>21</i>			<i>21</i>
" overhang forward	<i>5 1/2</i>	<i>14</i>			<i>14</i>
Circle enclosed	<i>40-0 1/2</i>	<i>40.04</i>	<i>8.0</i>		<i>40.04</i>
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	<i>262.46</i>	<i>261.80</i>			<i>261.80</i>

Standard Height of Superstructure *7.50*

" " R.Q.D. */*

Deduction for complete superstructure *42*

Percentage covered $\frac{S}{L} = 61.11\%$

" " $\frac{S_1}{L} = 60.95\%$

" " $\frac{E}{L} = 60.95\%$

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

Percentage from Table, Line B. *47.61%* (corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = *42* " x *47.61* = *- 20.00*

SHEER CORRECTION.

Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P.	<i>52.95</i>	1	<i>52.95</i>	<i>68.37</i>	<i>68.37</i>	1	<i>68.37</i>
1/4 L from A.P.	<i>23.56</i>	4	<i>94.24</i>	<i>29.92</i>	<i>29.92</i>	4	<i>119.68</i>
3/8 L " "	<i>5.82</i>	2	<i>11.64</i>	<i>9.46</i>	<i>9.46</i>	2	<i>14.92</i>
Amidships		4		<i>x</i>		4	
3/8 L from F.P.	<i>11.65</i>	2	<i>23.30</i>	<i>14.72</i>	<i>14.72</i>	2	<i>29.44</i>
1/4 L " "	<i>47.12</i>	4	<i>188.48</i>	<i>59.05</i>	<i>59.05</i>	4	<i>236.20</i>
F.P.	<i>105.90</i>	1	<i>105.90</i>	<i>133.00</i>	<i>133.00</i>	1	<i>133.00</i>
Total			<i>476.51</i>				<i>601.61</i>

Mean actual sheer aft = *6.00*
Mean standard sheer aft

Mean actual sheer forward = *6.00*
Mean standard sheer forward

Length of enclosed superstructure forward of amidships = *264*

" " aft of " = *165*

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{125.10}{18} \left(\frac{75-3055}{2L} \right) = - 3.09$

If limited on account of midship superstructure.

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	=	<i>31.91</i>
Summer freeboard	=	<i>6.08</i>
Moulded draught (d)	=	<u><i>25.83</i></u>

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = *6.46* = *6 1/2*

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

Tons per inch immersion at summer load water line

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

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.773 + .680}{1.36} = \frac{1.453}{1.36}$

Depth Correction	<i>9.84</i>	
Deduction for superstructures		<i>20.00</i>
Sheer correction		<i>3.09</i>
Round of Beam correction		<i>.13</i>
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc.		
	<i>9.84</i>	<i>23.22</i>
Summer Freeboard	= <i>72.88</i>	

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	"

W1330-0247 1/2

Particulars of Scuppers and Sanitary Discharge Pipes —

All scuppers fitted with storm valves at Slupe side
Common scuppers in Bridge Space with wood plugs at
deck level. W.I pipe scuppers at Bridge ends in Ulls.

Particulars of Side Scuttles :

All side scuttles fitted with hinged dead lights

Particulars of Guard Rails :—

Rails on Poop, Bridge, Forecastle 3' 6" high standard spaced 4' 3"
Three rails.

Particulars of Gangways, Lifelines, etc. :—

Iron.

Suitable provision is made for
rigging lifelines where required
for use of crew.

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	64 1/2	3' 9"	3' 2" x 1' 6"	3	14.25 sq	13 sq
Forward Well	103' 9"	4' 8"	3' 0" x 1' 6"	4	18. sq	20.75 sq

State position of each freeing port } After Well :— from B.B.H. 18' 6" - 36' 6" - 54' 6" Height of sill 15"
(F. and A. position and height above deck edge) } Forward Well :— " " 10' 9" - 34' 9" - 54' 10" - 81' 3" " 15"

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :— Vertical round bars

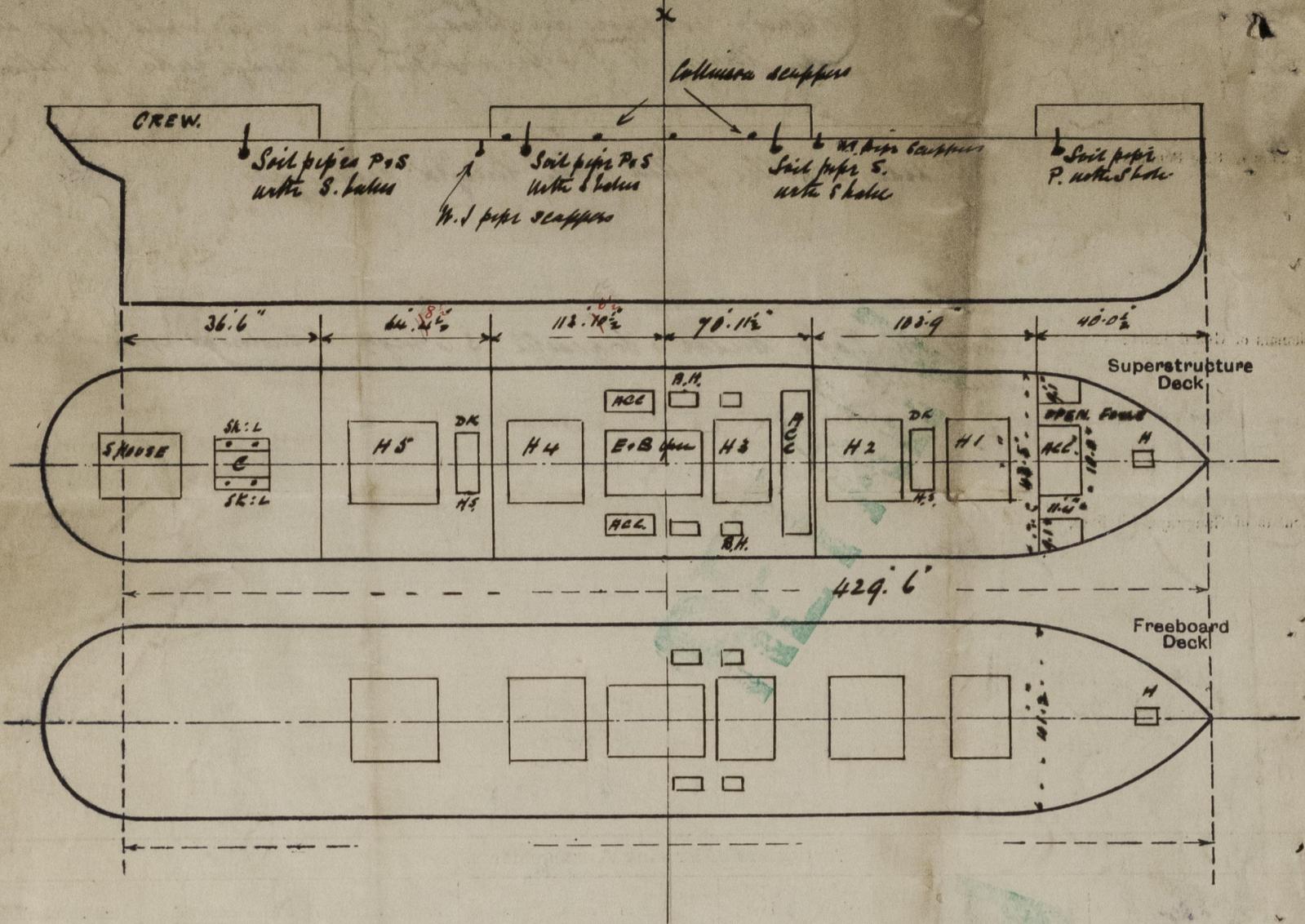
Additional area where sheer is less than standard.

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 ... ..	.56"	.38"	6 1/2 x 3 1/2 x 4 1/2	30"	✓	4' 3" x 2' 0"	26 1/2"	8' 0"
Raised Quarter Deck Bulkhead ...	✓							
Bridge, After Bulkhead ... ..	.46"	.32"	3 x 3 x 4 1/2	36"	✓	4' 6" x 3' 0"	22 1/2"	8' 0"
Bridge, Forward Bulkhead ... ..	.50"	.44"	9 x 3 x 5 1/2	24"	B.T + B. ✓	4' 10" x 3' 0"	14 1/2"	8' 0"
Forecastle Bulkhead	✓							
Trunk, Aft	✓							
Trunk, Forward	✓							
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super-structure Decks ... ..	.57"	.38"	4 x 3 x 5 1/2	38"	✓	4' 3" x 2' 0"	19 1/2"	7' 8 1/2"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	.50"	.38"	4 x 3 x 5 1/2	38"	✓	4' 6" x 2' 0"	19"	8' 0"
Deckhouses on Flush Deck Ships ...								

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

Poop Bulkhead	✓ Steel hinged doors operated from either side.
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead	Batted plates with outside nuts, bolts pitched 10°
Bridge, Forward Bulkhead	Steel hinged doors, two horizontal strongbacks, with two heavy jir, bolts in each
Forecastle Bulkhead	✓ open
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	
Exposed Machinery Casings on Super-structure Decks	Steel hinged doors operated from either side
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Steel hinged doors operated from either side
Deckhouses on Flush Deck Ships ...	

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:— *Class examined afloat. Poop fully sheathed 3" P.*
On hatch on deck 30 x 30 coaming 12 1/2 x 32. 2 1/2" rest bars. One hatch in fore 30 x 30 coaming 9" B.F. 2 1/2" rest bars. Sidley lumber hatch 4.6 x 15.1 coaming 9" B.F. rest bars 3". One beam in same 14 x 32 angles 4 x 3 x 35". On Bridge deck. Two lumber hatches on either side of sidley 9.0 x 6.8 x 4.0 coaming 30 x 32 3" rest bars. In Bridge space. Two hatches 4.6 x 4.0 + 9.0 x 4.0 coaming 9" B.F. rest bars 3". All the above hatches are fitted with. Cleats, battens 2 1/2" W.P. covers. + two tarpaulins. Appurtenances bolted in House under fore deck. Jamming hatches in Bridge space 2.6 x 2.0 coaming 9" B.F. with cleats, battens 2 1/2" W.P. covers + two tarpaulins.

9515	tons DW at	26.1 1/2	height	=	48 T.P.1
9440		26.0	"		
8850		25.0	"		
8300		24.0	"		
7730		23.0	"		

Builder's name and yard number *Richardson Duck & Co. Ltd.*
 Names of sister ships _____
 Owners *Dalglish Steam Shipping Co. Ltd. (R. S. Dalglish & Co. mngrs)*
 Fee £ *14* : *9* : *0*. Received by me _____