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Rpt. C.11.

# WRECK SECTION

## Lloyd's Register of Shipping.

### SURVEYS FOR FREEBOARD.

Index. No. 25952  
(For London Office only.)

No. 544  
No. 100529

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having *Raised quarter deck Bridge House & Tile Deck. well deck*

(Type of Superstructures.)

Ship's Name <i>COLWITH FORCE</i>	Nationality and Port of Registry <i>British Whitehaven</i>	Official Number <i>134943</i>	Gross Tonnage <i>805</i>	Date of Build <i>1918-9</i>
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Moulded Dimensions: Length L.W.L. *186.3* Breadth *29.4* Depth *12.4*

Moulded displacement at moulded draught = 85 per cent. of moulded depth *14.23* tons

Coefficient of fineness for use with Tables *.738*

Port of Survey *Liverpool*

Date of Survey *May 1932*

Name of Surveyor *R.R. Ruthven*

Particulars of Classification *100 A.I.*

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... .. <i>14.58</i>	(a) Where D is greater than Table depth (D-Table depth) R = $(14.62 - 12.42) 1.433$ = <i>+ 3.15"</i>	Moulded Breadth (B) <i>29.25</i>
Stringer plate ... .. <i>0.4</i>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <i>✓</i>	Standard Round of Beam = $\frac{B \times 12}{50}$ = <i>7.02</i>
Sheathing on exposed deck <i>2 1/2 on tile deck &amp; Bridge house.</i>		Ship's Round of Beam = <i>7 1/2</i>
$T \left( \frac{L-S}{L} \right) =$		Difference <i>.48</i>
Depth for Freeboard (D) = <i>14.62</i>	If restricted by superstructures <i>✓</i>	Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right)$ = $\frac{.48}{4} \times .2013$ = <i>-.02"</i>

#### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ... ..					
" overhang ... ..					
R.Q.D. enclosed ... ..	<i>116.25</i>	<i>116.25</i>	<i>4'-6"</i>		<i>116.25</i>
" overhang ... ..					
Bridge enclosed... ..	<i>9.25</i>	<i>9.25</i>	<i>7'-1"</i>		<i>9.25</i>
" overhang aft ... ..					
" overhang forward					
F'cle enclosed ... ..	<i>24.55</i>	<i>22.05</i>	<i>7'-2"</i>		<i>22.05</i>
" overhang ... ..		<i>1.25</i>			<i>1.25</i>
Trunk aft ... ..					
" forward ... ..					
Tonnage opening aft ...					
" " forward					
Total ... ..	<i>150.05</i>	<i>148.80</i>			<i>148.80</i>

Standard Height of Superstructure <i>6.00</i>
" " R.Q.D. <i>3.575</i>
Deduction for complete superstructure <i>24.63</i>
Percentage covered $\frac{S}{L} = 80.79\%$
" " $\frac{S_1}{L} = 79.87\%$
" " $\frac{E}{L} = 79.87\%$
Percentage from Table, Line A. (corrected for absence of forecastle (if required)) <i>75.13</i>
Percentage from Table, Line B. (corrected for absence of forecastle (if required))
Interpolation for bridge less than 2L (if required)
Deduction = $24.63 \times .7513$ = <i>- 18.5</i>

#### SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ... ..	<i>28.63</i>	1		<i>28.63</i>	<i>46.5</i>	<i>47.75</i>	1		<i>58.85</i>
1/4 L from A.P. ... ..	<i>12.74</i>	4		<i>50.96</i>	<i>26.5</i>	<i>25.67</i>	4		<i>104.72</i>
3/4 L " ... ..	<i>3.15</i>	2		<i>6.30</i>	<i>8.5</i>	<i>6.42</i>	2		<i>12.94</i>
Amidships ... ..	<i>✓</i>	4		<i>✓</i>	<i>✓</i>	<i>✓</i>	4		<i>✓</i>
3/4 L from F.P. ... ..	<i>6.30</i>	2		<i>12.60</i>	<i>6.25</i>	<i>6.71</i>	2		<i>13.42</i>
1/4 L " ... ..	<i>25.48</i>	4		<i>101.92</i>	<i>25.25</i>	<i>25.86</i>	4		<i>107.44</i>
F.P. ... ..	<i>57.26</i>	1		<i>57.26</i>	<i>60</i>	<i>62.00</i>	1		<i>62.00</i>
Total ... ..	<i>257.67</i>			<i>257.67</i>					<i>359.37</i>

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 = *.174*  
" " aft of " = *.5*

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{.75-S}{2L} \right) = \frac{101.70}{18} \left( \frac{.75-.4039}{.75} \right) = -1.96"$

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 = *19.12* Ft.  
Summer freeboard = *4.85*  
Moulded draught (d) = *14.27*

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches =  $\frac{14.27}{4}$  = *3.57* = *3 1/2"*  
Addition for Winter North Atlantic Freeboard (if required) = *2"*

Deduction for Fresh Water.

Displacement in salt water at summer load water line  
 $\Delta = 16.75$   
Tons per inch immersion at summer load water line  
 $T = 10.95$   
Deduction =  $\frac{\Delta}{40T}$  inches =  $\frac{16.75}{40 \times 10.95}$  = *3.82* = *3 3/4"*

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient  $\frac{.133 + .68}{1.36} = \frac{.813}{1.36}$

	+	-
Depth Correction ... ..	<i>3.15</i>	
Deduction for superstructures ... ..		<i>18.50</i>
Sheer correction ... ..		<i>1.96</i>
Round of Beam correction ... ..		<i>.02</i>
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc. ... ..	<i>54.00</i>	
	<i>57.15</i>	<i>20.48</i>
Summer Freeboard = <i>58.37</i>		

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, *Wood, Steel, Deck*:-

Tropical Fresh Water Line above Centre of Disc ... ..	<i>6"</i>
Fresh Water Line " " ... ..	<i>3 3/4"</i>
Tropical Line " " ... ..	<i>2 1/4"</i>
Winter Line below " " ... ..	<i>3"</i>
Winter North Atlantic Line " " ... ..	<i>5 1/2"</i>

Tropical Fresh Water Freeboard ... ..	<i>4'-10 1/4"</i>
Fresh Water " " ... ..	<i>4'-4 1/4"</i>
Tropical " " ... ..	<i>4'-6 1/4"</i>
Winter " " ... ..	<i>5'-1 3/4"</i>
Winter North Atlantic " " ... ..	<i>5'-3 3/4"</i>

14 JUN 1932

MARKING FORM  
19 AUG 1932  
RECEIVED

MARKING FORM  
2 APR 1935  
RECEIVED

MARKING FORM  
25 AUG 1932  
RECEIVED



## PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Main Deck R. Q. 2K									
Description of Hatchway		1	2						
Dimensions of Hatchway		27-6 x 18-2	36-7 x 17-9						
COAMINGS	Height above Deck	30"	36						
	Thickness	44	as						
	Sides	38	no						
	Stiffeners	7 x 3 x 38 B. G.	no						
	Brackets, Stays	2 sides							
HATCH BEAMS	Number	5	7						
	Spacing	55	35						
	Scantling and Sketch	7/8 PLT 9 1/2 x 15 x 36 angles 4 x 3 x 36	as no						
	Bearing Surface	3							
FORE AND AFTERS	Number								
	Spacing								
	Unsupported Lengths								
	Scantling* and Sketch	✓	✓						
	Bearing Surface								
HATCH COVERS	Material	W.W.	as						
	Thickness	3	no						
	How fitted	44	no						
	Bearing Surface	3							
Spacing of Cleats		24	as						
Number of Tarpaulins		3	no						

\*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 fiddley, funnel and ventilator coamings:—

Engine Room skylight wood.  $8 \times 2\frac{3}{4}$  framing, efficient. No canvas over.  
Steel hinged cover to fid d by grating on aft side of funnel. No clips  
No " " " " " " fore " " "  
Funnel & ventilator framing are efficient.

Particulars of Flush Bunker Scuttles:—

Done ✓

Particulars of Companionways :—

June


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

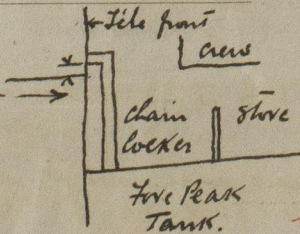
1 Vent P+S on Lile AK 5" dia. Coaming 7' x .50. Casting to Crew quarters. <sup>Wood</sup> ~~test~~ plugs <sup>and</sup> Canvas covers <sup>provided</sup>

1 " S " Main " fwd 10" dia " 36 x .1 to Hold.

1 " P+S on Bridge 2x 4" sq. " 13 1/2 x. " Bridge Turn 2x5

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

1 air pipe  $3\frac{1}{2}$  dia. <sup>36"</sup>~~42"~~ high to fore peak tank. -  
1 " " 3 " 31 " " aft "  $\rightarrow$  



~~No plug or canvas covers 40.~~  
Wood plugs provided

Particulars of Gangway Cargo and Coaling Ports :—

None!



Particulars of Scuppers and Sanitary Discharge Pipes :—

Sanitary discharge pipe No storm valve, about 12" above main deck. S. & R. from space above main dk.  
pipes " " " S " 12" below " " P. Forward spaces " " "

Particulars of Side Scuttles :—

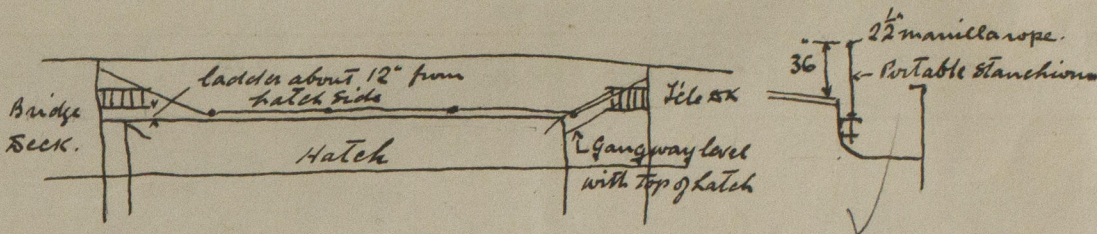
Side scuttles in crew quarters in fore turn dks fitted with deadlights  
" " " Bridge house turn dks no " " "

Particulars of Guard Rails :—

Guard rails on fore dk 34" high, 2 rods, stanchions about 48" apart. 28" inboard  
steel bulwark on Bridge deck 37½ high no stays 17" inboard

Particulars of Gangways, Lifelines, etc. :—

Fitted in forward well, port side only. Crew in fore turn dks.



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 <i>L. &amp; R. dk.</i> ...	116'-3"	33"	<i>27" x 22"</i> 25 x 21	<i>4</i> 2	<i>23½</i> 74.4	23.24 <i>4</i>
Forward Well ...	36'-3"	46"	33 x 23	2	102½ <i>4</i>	10.25 <i>12</i>

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.

*Balanced steel shutters no rails*

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 ...		Vertical plating 36	3½ x 3 x 36	35"		I.P. 47 x 20 I.S. 40 x 20	15½" 18"	30"
Bridge, After Bulkhead ...								
Bridge, Forward Bulkhead ...	.30	.25	5½ x 3 x 38 B.A.	33	KNEE T.R.B.	5' side light two deadlights I.P.S. 54 x 21 I.C. 48 x 30	59" <i>about</i> 54"	7-1
Forecastle Bulkhead ...		Vertical plating 20	Steel bulkheads	✓	✓		18	7-2
Trunk, Aft ...								
Trunk, Forward ...								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	.30	.25	3 x 3 x 30	30"	Knee at Top	I.P.S. 42 x 21 L.R. " 45 x 21 B.R.	31"	67"
Exposed Machinery Casings on Super-structure Decks ...								
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...								
Deckhouses on Flush Deck Ships ...								

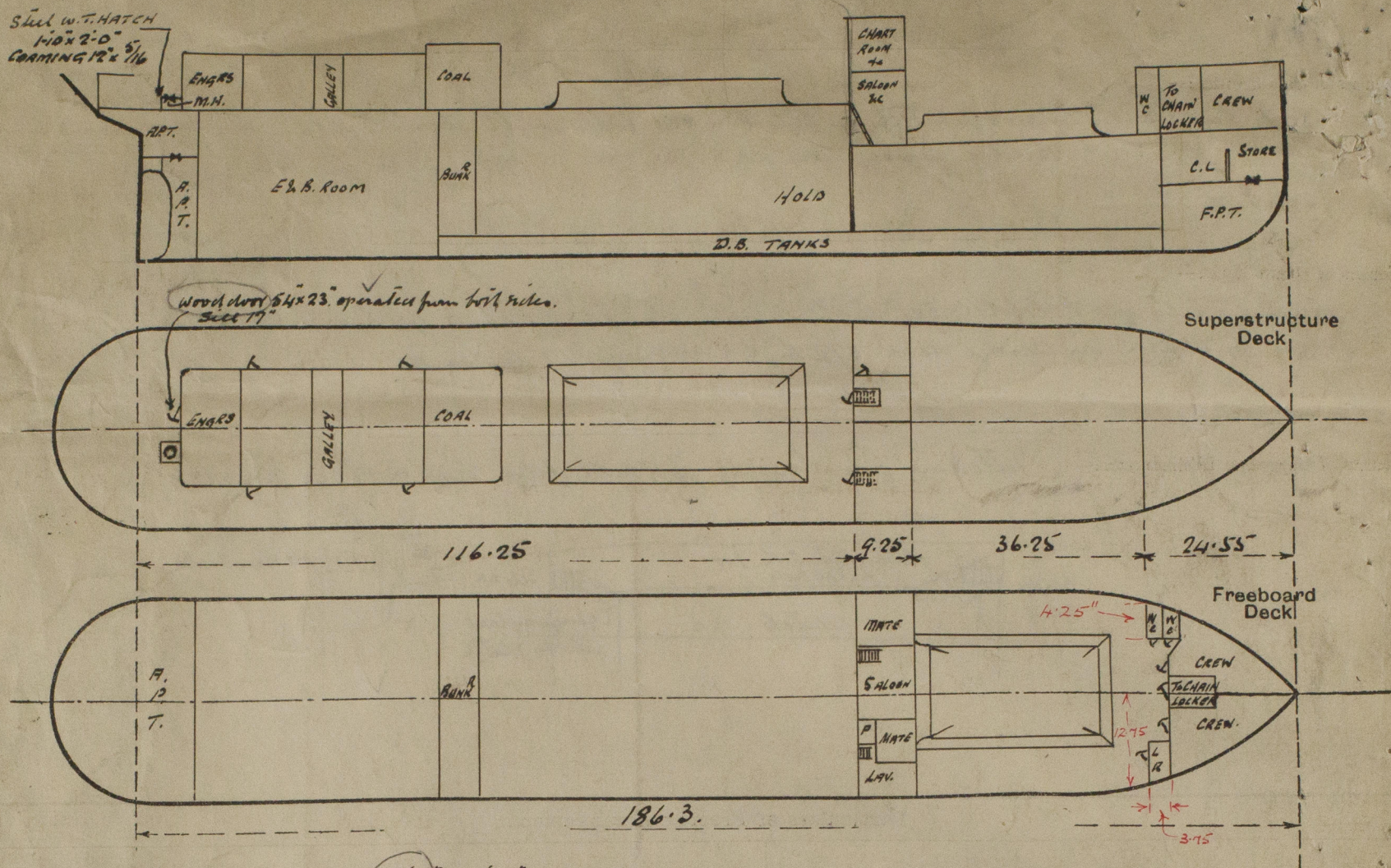
Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead ...	Hinged wood door P. operated from both sides
Raised Quarter Deck Bulkhead ...	Hinged steel door S. No lock etc.
Bridge, After Bulkhead ...	
Bridge, Forward Bulkhead ...	<i>Wood plating</i> Hinged steel doors, operated from both sides
Forecastle Bulkhead ...	" door to hatch + padlock.
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	Hinged steel doors. <i>capable of being operated from either side</i>
Exposed Machinery Casings on Super-structure Decks ...	<i>Boots in inside only</i>
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	
Deckhouses on Flush Deck Ships ...	



Calcutta Force

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:—



Coal hatch on Casing Top 10'6" x 21'0"  
Coaming 7' x 3'4"  
W.W. covers 22" Thwartships  
Bearing 4"  
Fore & aft at Centre, fixed 16' x 3'4" angles  
3' x 3' x 3'4"

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

Heats 29 ends, 43 sides apart  
1 Tarpsaulin

Man holes to Fore & aft peak Tanks  
fitted with bolted & painted steel  
plate covers.

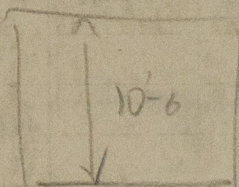
Forecastle	20.80	24.55
Stowage 4'25" x 3'75"	1.25	22.05
12.75	22.05	2.50

24.55  
3.75  
20.80

Sum of Moments = 14.27  
Kul = .08  
14.35

Δ 15 1765 11.01  
14 1633 10.92  
132 0.07

Δ = 1633  
42  
1675



Freeboard Survey when vessel afloat  
Freeboard assignment only.

Builder's name and yard number R. Williamson & Son, Workington N° 229

Names of sister ships

Owners

West Coast Shipping Co Ltd (B. L. L. L. L.)

Fee £ 6 : 16 : 0

Received by me

*[Signature]*



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