

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

2442

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Pop. Bridge & Forecastle disconnected.

(Type of Superstructures.)

Ship's Name "WEARWOOD"	Nationality and Port of Registry <u>British</u> <u>Middlesbrough</u>	Official Number <u>160424</u>	Gross Tonnage <u>4596</u> <u>4578</u>	Date of Build <u>1930-1</u>
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Port of Survey Barrow.

Date of Survey 25th April 1932.

Name of Surveyor J. Hodgson

Particulars of Classification

Moulded Dimensions: Length 382.0 Breadth 51.75 Depth 29.0

Moulded displacement at moulded draught = 85 per cent. of moulded depth 10600 tons

Coefficient of fineness for use with Tables .761

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>29.00</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(29.03 - 25.47) × 2.738 = +10.46</u>	Moulded Breadth (B) <u>51.75</u>
... .. <u>.03</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{51.75 \times 12}{50} = 12.42$
Shear <u>✓</u>	If restricted by superstructures	Ship's Round of Beam = <u>12.75</u>
T (L) =		Difference <u>.33</u>
Depth for Freeboard (D) = <u>29.03</u>		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L}) = \frac{.33}{4} (1 - \frac{.4767}{1}) = .04$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	<u>33.50</u>	<u>33.50</u>	<u>8'-0"</u>	<u>-</u>	<u>33.50</u>	Standard Height of Superstructure <u>7.32</u>
" overhang						" " R.Q.D. <u>✓</u>
R.Q.D. enclosed						Deduction for complete superstructure <u>40.80</u>
" overhang						Percentage covered $\frac{S}{L} = \frac{47.8}{100} = 47.8\%$
Bridge enclosed	<u>117.20</u>	<u>117.20</u>	<u>8'-0"</u>	<u>-</u>	<u>117.20</u>	" " $\frac{S_1}{L} = \frac{47.67}{100} = 47.67\%$
" overhang aft	<u>1.97</u>	<u>1.48</u>			<u>1.48</u>	" " $\frac{E}{L} = \frac{47.67}{100} = 47.67\%$
" overhang forward						Percentage from Table, Line A. (corrected for absence of forecastle (if required))
F'cle enclosed	<u>29.92</u>	<u>29.92</u>	<u>8'-0"</u>	<u>-</u>	<u>29.92</u>	Percentage from Table, Line B. <u>.3402</u> (corrected for absence of forecastle (if required))
" overhang						Interpolation for bridge less than .2L (if required) <u>✓</u>
Trunk aft						Deduction = <u>40.8 × .3402 = -13.88</u>
" forward						
Tonnage opening aft						
" " forward						
Total	<u>182.59</u>	<u>182.10</u>			<u>182.10</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>48.20</u>	1		<u>48.20</u>	<u>55.00</u>	<u>55.00</u>	1		<u>55.00</u>
$\frac{1}{8}$ L from A.P.	<u>21.45</u>	4		<u>85.80</u>	<u>24.10</u>	<u>24.10</u>	4		<u>96.40</u>
$\frac{3}{8}$ L "	<u>5.30</u>	2		<u>10.60</u>	<u>6.02</u>	<u>6.02</u>	2		<u>12.04</u>
Amidships	<u>-</u>	4		<u>-</u>	<u>-</u>	<u>-</u>	4		<u>-</u>
$\frac{5}{8}$ L from F.P.	<u>10.60</u>	2		<u>21.20</u>	<u>12.12</u>	<u>12.12</u>	2		<u>24.24</u>
$\frac{7}{8}$ L "	<u>42.89</u>	4		<u>171.56</u>	<u>48.48</u>	<u>48.48</u>	4		<u>193.92</u>
F.P.	<u>96.40</u>	1		<u>96.40</u>	<u>111.00</u>	<u>111.00</u>	1		<u>111.00</u>
Total				<u>433.76</u>					<u>492.60</u>

Mean actual sheer aft = excess
Mean standard sheer aft = excess

Mean actual sheer forward = excess
Mean standard sheer forward = excess

Length of enclosed superstructure forward of amidships = .18
" " aft of " = .13

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{58.84}{18} \left(.75 - \frac{.239}{2} \right) = -1.67$

If limited on account of midship superstructure. ✓

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. ✓

<p>Deduction for Tropical Freeboard.</p> <p>Addition for Winter and Winter North Atlantic Freeboard.</p> <p>Depth to Freeboard Deck = <u>29.03</u></p> <p>Summer freeboard = <u>5.39</u></p> <p>Moulded draught (d) = <u>23.64</u></p> <p>Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>5.91.6</u></p> <p>Addition for Winter North Atlantic Freeboard (if required) =</p>	<p>Deduction for Fresh Water.</p> <p>Displacement in salt water at summer load water line $\Delta = 10271$</p> <p>Tons per inch immersion at summer load water line $T = 39.32$</p> <p>Deduction = $\frac{\Delta}{40T}$ inches = <u>6.53 = 6$\frac{1}{2}$</u></p>	<p>TABULAR FREEBOARD corrected for Flush Deck (if required)</p> <p>Correction for coefficient $\frac{.761 + .68}{1.36} \frac{1.441}{1.36}$</p> <table border="1"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction</td> <td><u>10.46</u></td> <td><u>-</u></td> </tr> <tr> <td>Deduction for superstructures</td> <td><u>-</u></td> <td><u>13.88</u></td> </tr> <tr> <td>Sheer correction</td> <td><u>-</u></td> <td><u>1.67</u></td> </tr> <tr> <td>Round of Beam correction</td> <td><u>-</u></td> <td><u>.04</u></td> </tr> <tr> <td>Correction for Thickness of Deck amidships</td> <td><u>-</u></td> <td><u>-</u></td> </tr> <tr> <td>Other corrections, scantlings, etc.</td> <td><u>-</u></td> <td><u>-</u></td> </tr> <tr> <td></td> <td><u>10.46/5.59</u></td> <td><u>-5.13</u></td> </tr> </table> <p>Summer Freeboard = <u>64.80</u></p>		+	-	Depth Correction	<u>10.46</u>	<u>-</u>	Deduction for superstructures	<u>-</u>	<u>13.88</u>	Sheer correction	<u>-</u>	<u>1.67</u>	Round of Beam correction	<u>-</u>	<u>.04</u>	Correction for Thickness of Deck amidships	<u>-</u>	<u>-</u>	Other corrections, scantlings, etc.	<u>-</u>	<u>-</u>		<u>10.46/5.59</u>	<u>-5.13</u>
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:

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

Tropical Fresh Water Freeboard	
Fresh Water " "	
Tropical " "	
Winter " "	
Winter North Atlantic " "	

5'-4 $\frac{3}{4}$ FREEBOARDS ASSIGNED UNDER 1906 REGULATIONS

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	...	...	...	...	...	...	...	...	...
Dimensions of Hatchway	...	...	...	...	...	...	...	...	...
COAMINGS	Height above Deck	...	...	...	...	...	...	...	...
	Thickness	...	...	...	...	...	...	...	...
	Sides	...	...	...	...	...	...	...	...
	Stiffeners	...	...	...	...	...	...	...	...
HATCH BEAMS	Number	...	...	...	...	...	...	...	...
	Spacing	...	...	...	...	...	...	...	...
	Scantling and Sketch	...	...	...	...	...	...	...	...
	Bearing Surface	...	...	...	...	...	...	...	...
FORE AND AFTERS	Number	...	...	...	...	...	...	...	...
	Spacing	...	...	...	...	...	...	...	...
	Unsupported Lengths	...	...	...	...	...	...	...	...
	Scantling and Sketch	...	...	...	...	...	...	...	...
HATCH COVERS	Material	...	...	...	...	...	...	...	...
	Thickness	...	...	...	...	...	...	...	...
	How fitted	...	...	...	...	...	...	...	...
	Bearing Surface	...	...	...	...	...	...	...	...
Spacing of Cleats	...	...	...	...	...	...	...	...	...
Number of Tarpaulins	...	...	...	...	...	...	...	...	...

*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 fiddle, funnel and ventilator coamings:—
 Stokhold gratings covered by Strong Steel hinged covers.
 Tunnel, Stokhold and Engine Room Ventilators on casing tops of substantial construction and in good condition.
 Engine Room. Skilght of Steel of Strong construction and fitted with forced bulls eyes in steel hinged flaps.

Particulars of Flush Bunker Scuttles:—

Particulars of Companionways:—

Wood plugs & Cover to All Ventilators, Coaming of Strong Construction to Rule requirements.
 Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—
 On Fore Deck: 2 Vents 11" diam. Coaming 36" x 34" to Hold; 1 Vent 6" diam. Coaming 36" x 32" to Fore Peak; 1 Vent 9" diam. Coaming 36" x 34" to Fore Peak.
 On Upper Deck in Fore Well: 2 Vents 11" diam. Coaming 36" x 34" to Hold; 2 Vents 14" diam. Coaming 36" x 36" to Hold.
 On Bridge Deck: 2 Vents 14" diam. Coaming 36" x 38" to Hold; 2 Vents 9" diam. Coaming 30" x 34" to Bridge.
 On Upper Deck in Aft Well: 2 Vents 13" diam. Coaming 36" x 36" to Hold; 2 Vents 6" diam. Coaming 30" x 32" to Hold.
 On Poop Deck: 2 Vents 12" diam. Coaming 30" x 36" to Hold; 1 Vent 10" diam Coaming 30" x 34" to Tunnel.
 Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—
 On Fore Deck: 1-3" Wt. Gooseneck 24" high from Fore Peak Tank.
 On Fore Deck: 2-2 1/2" and 2-3" Wt. Goosenecks 36" high from Double Bottom.
 On Bridge Deck: 6-3" Wt. Goosenecks 21" high and 2-3" dia 29" high from double bottom.
 On Poop Deck: 2-6" Wt. Goosenecks 29" high from Bunker.
 On Poop Deck: 2-3" Wt. Goosenecks 20" high from after peak.

Particulars of Gangway Cargo and Coaling Ports:—

Particulars of Scuppers and Sanitary Discharge Pipes — From Below: Freeboard deck — none.
 From Engine Room: Bridge: One Scupper each side fitted with Valve at Ship's side and plug at inner end.
 Poop: One Sanitary discharge port & 2 started fitted with valves at ship's side & traps at inner end.
 2 1 1/2" Wash place discharge each side traps at inner end.
 above Bridge deck led through Bridge Sides. 2 Sanitary discharges each side fitted with valves and traps at inner end.
 5 wash place 1 started & 3 port 1 1/2" diam. traps at inner end.

Particulars of Side Scuttles:—

Particulars of Guard Rails:—

Particulars of Gangways, Lifelines, etc.:—

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

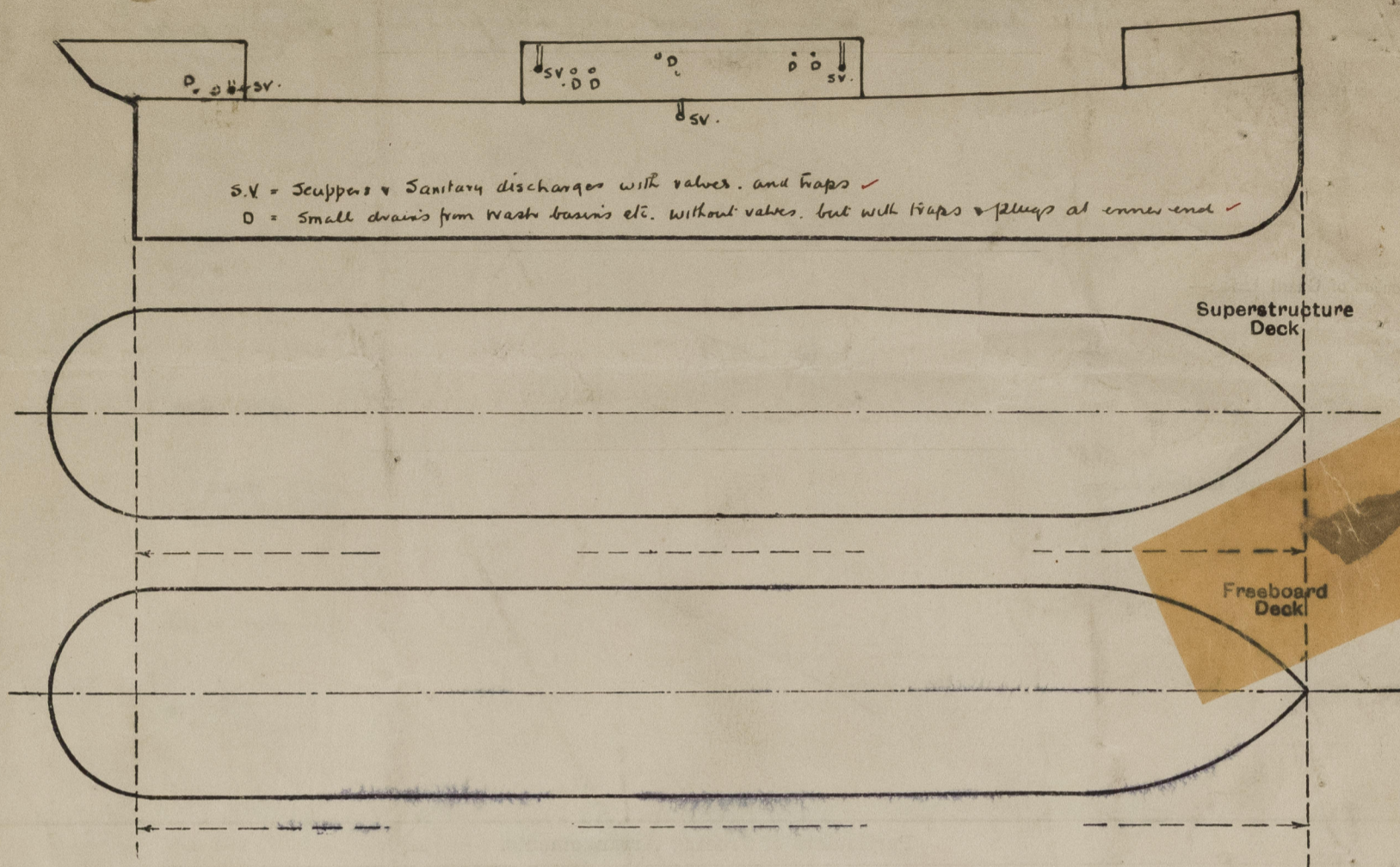
State position of each freeing port ... After Well:—
 (F. and A. position and height above deck edge) Forward Well:—
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—
 Additional area where sheer is less than standard.

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
Forecastle Bulkhead
Trunk, Aft
Trunk, Forward
Exposed Machinery Casings on Freeboard or Raised Quarter Decks
Exposed Machinery Casings on Superstructure Decks
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	36	28	3 x 3 x 32	31 1/2	overlaps Boundary angle from fiddle to Bunker	2 @ 36" x 23"	21"	...
Deckhouses on Flush Deck Ships

Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Poop Bulkhead	...
Raised Quarter Deck Bulkhead	...
Bridge, After Bulkhead	...
Bridge, Forward Bulkhead	...
Forecastle Bulkhead	...
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	...
Exposed Machinery Casings on Superstructure Decks	...
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	34 Steel Sliding door in riveted plates 40 thick. Door slides vertically and is fastened from inside fiddle by one butterfly nut & bolt. door fitted with a stopper to prevent it being removed.
Deckhouses on Flush Deck Ships	...

Westwood

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:—

Timber fittings Sockets for uprights formed of $3\frac{1}{2} \times 3\frac{1}{2} \times 60$ angles securely riveted to deck & spaced as shown on sketch. ✓ Strong forged eye plates spaced as shown riveted to stringer plate by four 1" rivets ✓
 No fittings on poop bridge & fore-castle. ✓

Steering gear leads: Control Rods led from Wheel house on casing tops and between casings on strong stanchions. From Steering Engine through at after end of Portage chains and rods led along after well deck along side hatchways and on to poop as shown.

~~The owners propose to protect~~ The rods & chains ^{are protected} in the after well by steel half round guards (as per details shown on sketch this work is now in hand see letter.) ✓

Double bottom subdivided longitudinally for $\frac{1}{2}$ L & C.
 A secondary means of steering exists in the form of efficient relieving tackle worked from the after winch.

Builder's name and yard number

Names of sister ships Stated. Sister Vessel. S/S "Maplewood"

Owners Joseph Constantine S.S. Co Ltd

Fee £ 12 : 15 : - Received by me
 Paid 6/5/32.