

12 AUG 1932

Rpt. C.11.

Index. No. **32244**
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

2457

Computation of Freeboard for Steamer, ~~Sailing Ship, Tug~~
having Flush Deck

Port of Survey Whitehaven

Date of Survey 3rd & 10th August 1932

Name of Surveyor W. J. Jones

Particulars of Classification +100 A.1
Hopper Barge
S.S. Wain No. 1-31

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<u>Clearway</u>	<u>British Whiteham</u>	<u>149888</u>	<u>276</u>	<u>1924</u> <u>3 mo</u>

Moulded Dimensions: Length 115' 08" Breadth 24' 0" Depth 11' 0 1/4"

Moulded displacement at moulded draught = 85 per cent. of moulded depth 450 tons

Coefficient of fineness for use with Tables 34 1/2 = .68 minimum

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... <u>11' 0 1/4"</u> ... <u>11' 0 1/4"</u>	(a) Where D is greater than Table depth (D - Table depth) R = $\frac{(11' 0 1/4" - 11' 0 1/4")}{12} = 0$	Moulded Breadth (B) <u>24' 0"</u>
Stringer plate ... <u>0' 03"</u> ... <u>0' 03"</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = $\frac{(11' 0 1/4" - 11' 0 1/4")}{12} = 0$	Standard Round of Beam = $\frac{B \times 12}{50} = 6.48$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = \frac{24 \times (115 - 99.25)}{115} = 3.41$	If restricted by superstructures	Ship's Round of Beam = <u>6.48</u>
Depth for Freeboard (D) = <u>11' 0 1/4"</u>		Difference <u>0.24</u>
		Restricted to <u>0.24</u>
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = 0.04$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
„ overhang ...					
R.Q.D. enclosed ...					
„ overhang ...					
Bridge enclosed ...					
„ overhang aft ...					
„ overhang forward ...					
„ enclosed ...					
„ overhang ...					
„ forward ...					
Tonnage opening aft ...					
„ forward ...					
Total ...					

Standard Height of Superstructure ...

„ „ R.Q.D. ...

Deduction for complete superstructure ...

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

„ „ $\frac{S_1}{L} =$

„ „ $\frac{E}{L} =$

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

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

Interpolation for bridge less than 2L (if required)

Deduction =

Shear measured Aft

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<u>21.51</u>	1		<u>21.51</u>	<u>13.5</u>	<u>13.5</u>	1		<u>13.5</u>
1/4 L from A.P. ...	<u>9.57</u>	4		<u>38.28</u>	<u>4</u>	<u>3.95</u>	4		<u>15.80</u>
1/2 L „ ...	<u>2.37</u>	2		<u>4.74</u>	<u>1</u>	<u>.99</u>	2		<u>1.98</u>
Amidships ...		4			<u>0</u>	<u>0</u>	4		<u>0.0</u>
3/4 L from F.P. ...	<u>4.73</u>	2		<u>9.46</u>	<u>2.5</u>	<u>2.66</u>	2		<u>5.32</u>
1/4 L „ ...	<u>19.14</u>	4		<u>76.56</u>	<u>10.5</u>	<u>10.66</u>	4		<u>42.64</u>
F.P. ...	<u>43.02</u>	1		<u>43.02</u>	<u>33.5</u>	<u>33.5</u>	1		<u>33.5</u>
Total ...				<u>193.57</u>					<u>112.74</u>

Mean actual sheer aft = $\frac{3.56 \times 100}{5.91} = 60.2\%$

Mean standard sheer aft = $\frac{3.56 \times 100}{5.91} = 60.2\%$

Mean actual sheer forward = $\frac{9.074 \times 100}{14.324} = 63.1\%$

Mean standard sheer forward = $\frac{9.074 \times 100}{14.324} = 63.1\%$

Length of enclosed superstructure forward of amidships =

„ „ aft of „ =

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{4.53 \times .75}{18} = 0.1875$

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.

-03 wood.

Depth to Freeboard Deck 11' 0 1/4"

Summer freeboard 1' 6 1/2"

Moulded draught (d) 12' 4 1/4"

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 3' 1 1/4"

Addition for Winter North Atlantic Freeboard (if required) = 2"

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 446.453$

Tons per inch immersion at summer load water line

$T = 6.58$

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

= 1.81

1.72 = 1 3/4"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient Flush Deck $1.5 \times 1.15 = 1.725$

$\frac{68 + 68}{1.36} = 1$

	+	-
Depth Correction ...	<u>3.02</u>	
Deduction for superstructures ...	<u>3.37</u>	
Sheer correction ...	<u>3.37</u>	
Round of Beam correction ...		<u>0.04</u>
Correction for Thickness of Deck amidships ...		<u>0.36</u>
Other corrections, scantlings, etc. ...	<u>6.39</u>	<u>0.43</u>
	<u>6.416</u>	<u>0.43</u>

Summer Freeboard = 19' 5 1/4" 19' 20"

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

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

Tropical Fresh Water Freeboard	...	<u>1' 2 1/2"</u>
Fresh Water	...	<u>1' 5 1/4"</u>
Tropical	...	<u>1' 4 1/4"</u>
Winter	...	<u>1' 10 3/4"</u>
Winter North Atlantic	...	<u>2' 0 3/4"</u>

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1906 freeboards reassigned

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS															
Description of Hatchway			...	...	...	FORWARD STORE	HOPPER WELL	BUNKER (each side)	FORE & AFT PEAKS						
Dimensions of Hatchway			...	...	...	42' x 42'	36'-8" x 20'-10"	41' x 35"	14' x 14"						
COAMINGS	{	Height above Deck	...	...	...	22 1/2'	2'-6"	22"	12"						
		Thickness	{	Sides	...	.30	.30	.30	.30						
				Ends	...	.30	.30	.30	.30						
		Stiffeners	...	✓	9 x 3 x .36										
		Brackets, Stays	...	✓											
HATCH BEAMS	{	Number	...	...	...		Beam across well:-								
		Spacing	...	...	...		THREE 8" x 6" H Beam 21' apart.								
		Scantling and Sketch	...												
		Bearing Surface	...	✓	1/2" plate 12' x 42' x .34										
FORE AND AFTERS	{	Number	...	...	...							
		Spacing	...	...	...							
		Unsupported Lengths	...												
		Scantling* and Sketch	...												
		Bearing Surface	...	...									
HATCH COVERS	{	Material	...	...	...	White Pine		White Pine	Steel						
		Thickness	...	...	...	2 1/2"		2 1/2"	3/8"						
		How fitted	...	...	...	Thwart.		F. S. A.	Secured by						
		Bearing Surface	...	...	...	1"		1 1/2"	6-3/4 bolts						
Spacing of Cleats			...	...	...	15"		15"							
Number of Tarpaulins			...	...	...	Two.		Two.	✓						

*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:— of steel, substantially constructed and in good condition
 Engine room skylights of steel with fixed lights
 Ringed steel covers to fiddley gratings.

Particulars of Flush Bunker Scuttles:—

Two manholes to Buoyancy Chambers of steel plate secured by 3/4 bolts 6" apart.

Particulars of Companionways:—

Companion way to Crew's accommodation 41' x 35' by 22" high of steel plate and angles with two fixed lights each side. Opening on top 24' x 28 1/2" closed by 3" leak cover fitted in leak slides
 Skylight to this accommodation 41' x 35' x 22" steel plate and angles .30 thick with 14 fixed lights; top hinged and bolted.

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

One on fore deck to Crew's accommodation 6' coaming 22 x 36"
 Galley & Accommodation stove pipes 4" coaming 20 x 15"
 One 15" Cast iron horse neck to forward store 24" high. ~~no~~ plugs ~~no~~ covers fitted
 One 15" Cast iron horse neck to Accommodation 24" high.
 Four 14" Cast iron horse neck to Buoyancy Chambers 21" high.

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

One of 3" to Fore Peak 24" high.
 — 3" — Bow Keelson — 3" —
 — 3" — Aft Peak — 3" — ~~no~~ plugs ~~no~~ covers fitted

Particulars of Gangway Cargo and Coaling Ports:—

hme.



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Particulars of Scuppers and Sanitary Discharge Pipes — *none below fireboard deck.*
One on port side aft. (Sanitary discharge fitted with storm valve inboard)

Particulars of Side Scuttles:

none.
Three deck lights to Accommodation 12' x 4' x 2'

Particulars of Guard Rails:—

Ahead: Koffenbell.
38" high, Stanchions spaced 5'-6" apart; two rails of line rope.

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 and	40'	2'-6"	18' x 15'	One.	1.875 sq ft.	
Forward Well						

State position of each freeing port { After Well:— 34'-6" aft of * 6' above deck.
 (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:— *Balanced shutter*

Additional area where sheer is less than standard. *Open rails for 36'-9" Amidships*

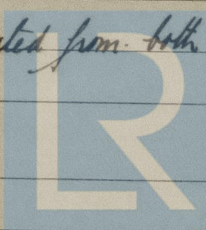
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	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 ...	32	28	3 x 3 x 30	32"	Bracketed at top over bar at bottom	3 each side 23' x 46 1/2'	24'	6'-9"
Exposed Machinery Casings on Superstructure 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	
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	
Deckhouses on Flush Deck Ships ...	

Strong steel doors hinged and fitted with locks operated from both sides.

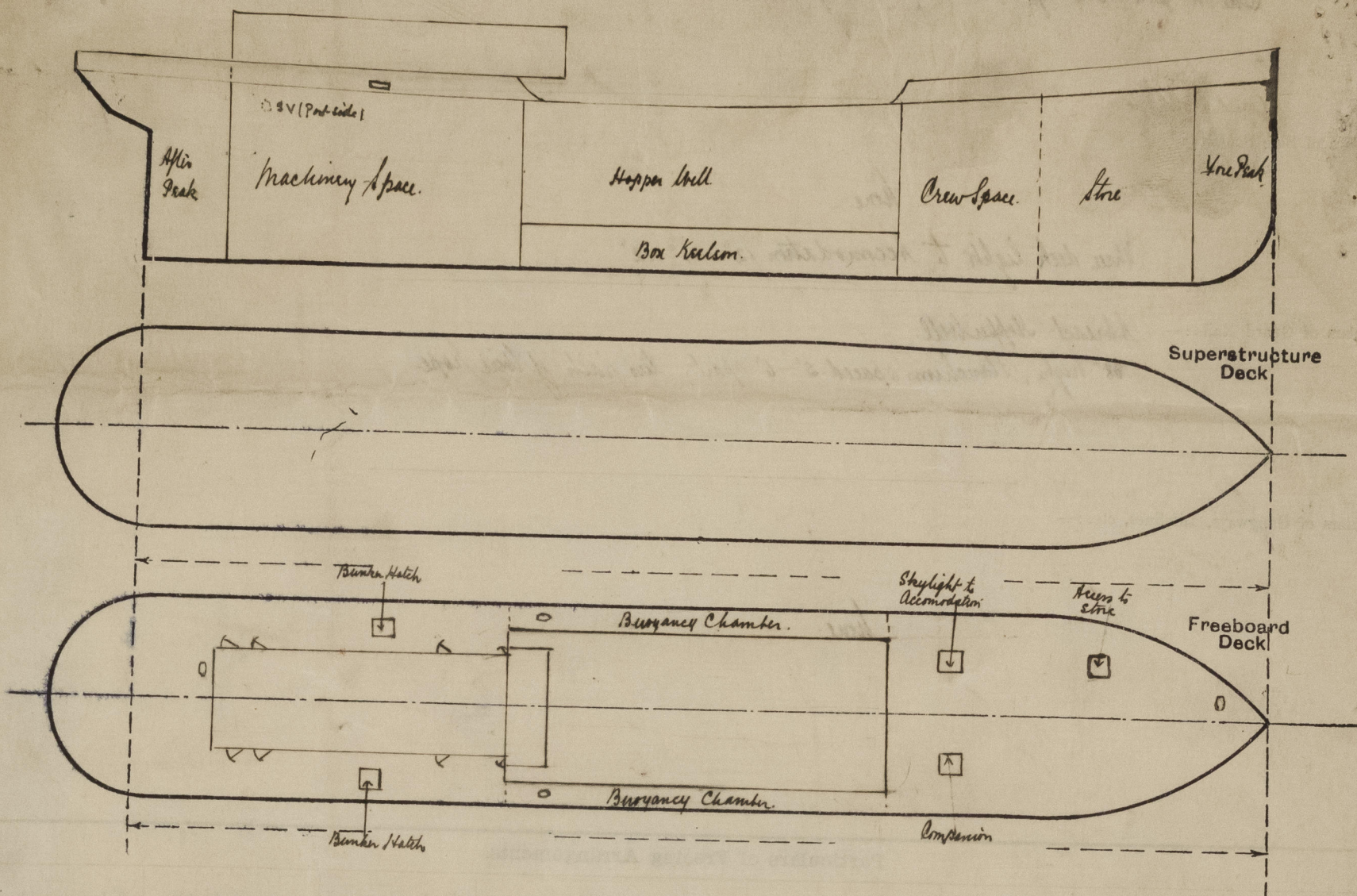


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CLEARWAY

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:—

*This vessel is a Grab Dredger.
The survey has been held afloat and confined to the parts detailed in the report.*

Builder's name and yard number *A. Hall & Co. Ltd. 601*

Names of sister ships

Owners *Whitehaven Harbour Commissioners*

Fee £ *3* : *8* : *0*

Received by me

[Signature]



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