

Lloyd's Register of Shipping.  
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~  
having no erections.

(Type of Superstructures.)

Ship's Name <u>Nº 35</u>	Nationality and Port of Registry <u>British Liverpool</u>	Official Number <u>147322</u>	Gross Tonnage <u>1101</u>	Date of Build <u>1925-7m.</u>
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Moulded Dimensions: Length 220-6 Breadth 37-6 Depth 16-9  
Moulded displacement at moulded draught = 85 per cent. of moulded depth 2560 tons  
Coefficient of fineness for use with Tables 748

Port of Survey Liverpool  
Date of Survey August 1932  
Name of Surveyor A.W. Jackson.  
Particulars of Classification 100A1 - Hopper Dredger.  
SS. No. 29

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... .. <u>16-75</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>236</u> <u>(17-03 - 14-67) 1-692</u> <u>3-99</u>	Moulded Breadth (B) <u>37-5</u>
Stringer plate <u>46</u> ... .. <u>0-04</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{9}{50}$
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) = \frac{210}{220} \times 25 = 23-6$		Ship's Round of Beam = <u>9-5</u>
Depth for Freeboard (D) = <u>17-03</u>	If restricted by superstructures	Difference = <u>0-5</u>
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{0-5}{4} = 0-12$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed ... ..						Standard Height of Superstructure
„ overhang ... ..						„ „ R.Q.D.
R.Q.D. enclosed ... ..						Deduction for complete superstructure
„ overhang ... ..						Percentage covered $\frac{S}{L} =$
Bridge enclosed ... ..						„ „ $\frac{S_1}{L} =$
„ overhang aft ... ..						„ „ $\frac{E}{L} =$
„ overhang forward						Percentage from Table, Line A. (corrected for absence of forecastle (if required))
„ overhang ... ..						Percentage from Table, Line B. (corrected for absence of forecastle (if required))
Trunk aft ... ..						Interpolation for bridge less than 2L (if required)
„ forward ... ..						Deduction =
Tonnage opening aft ...						
„ „ forward						
Total ... ..						

None fitted!

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	Mean actual sheer aft	Mean standard sheer aft
A.P. ... ..	32-0	1		32-00	42-50	42-50	1		42-50	Excess	
$\frac{1}{2}$ L from A.P. ... ..	142-4	4		56-96	18-88	18-76	4		75-04	Excess	
„ „ ... ..	3-32	2		7-04	4-50	4-69	2		9-38		
Amidships ... ..		4					4				
$\frac{3}{4}$ L from F.P. ... ..	7-04	2		14-08	8-63	8-05	2		16-10		
$\frac{1}{2}$ L „ „ ... ..	28-48	4		113-92	32-25	32-19	4		128-76		
F.P. ... ..	64-0	1		64-00	73-50	73-50	1		73-50		
Total ... ..				288-00					345-28		

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( 75 - \frac{S}{2L} \right) = \frac{57-28}{18} \times 75 = -2-39$

If limited on account of midship superstructure.

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

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	corrected for Flush Deck (if required)
	$\Delta =$	Correction for coefficient
Depth to Freeboard Deck =	Tons per inch immersion at summer load water line	
Summer freeboard =	T =	
Moulded draught (d) =	Deduction = $\frac{\Delta}{40T}$ inches	
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches =		
Addition for Winter North Atlantic Freeboard (if required) =		

Depth Correction	3-99	
Deduction for superstructures		
Sheer correction		2-39
Round of Beam correction		0-12
Correction for Thickness of Deck amidships	0-12	
Other corrections, scantlings, etc.		
	4-11	2-51 + 1-60
		Summer Freeboard = 33-00

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



# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway ... ..									
Dimensions of Hatchway ... ..									
COAMINGS	{	Height above Deck ... ..							
		Thickness { Sides ... ..							
		{ Ends ... ..							
		Stiffeners ... ..							
		Brackets, Stays ... ..							
HATCH BEAMS	{	Number ... ..							
		Spacing ... ..							
		Scantling and Sketch ... ..							
		Bearing Surface ... ..							
FORE AND AFTERS	{	Number ... ..							
		Spacing ... ..							
		Unsupported Lengths ... ..							
		Scantling* and Sketch ... ..							
		Bearing Surface ... ..							
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:— *Stokehold gratings covered by strong steel hinged covers. Fiddle and funnel ventilators in efficient condition. Engine skylight of steel strongly constructed.*

Particulars of Flush Bunker Scuttles:— *None fitted.*

Particulars of Companionways:— *2 - steel companions 6'-0" x 3'-0" x 6'-0" high forward of hopper leading to crew's accommodation below freeboard deck, doors of steel with 13" sills above wood dk. sheathing, doors operated from both sides.*

*Air Pipes.*  
 Particulars of ~~Ventilators~~ in exposed positions on freeboard ~~and superstructure decks~~:—  
*2 C.S. air and filling pipes abaft breakwaters 8" high above steel deck x 1 1/2" diam. from feed tanks P.S. Wood plugs provided for closing air pipes*

*Ventilators.*  
 Particulars of ~~Air Pipes~~ in exposed positions on freeboard, ~~raised quarter or superstructure decks~~:—  
*2 Vents forward of hopper G.N. C.S. 6" x 4", openings 18" above wood dk. sheathing, led to F.P. Space.  
 8 " " " " 7 1/2" diam. coamings 36" x 32" " " " " " crew's accomm.  
 5 " " " " 6 3/4" " " 36" x 32" " " " " " forward hold.  
 3 M.V. " " " " 6 3/4" " " 30" x 42" C.S. " " " " " buoyancy spaces.  
 2 Vents abreast hopper F.E. 6 1/2" " " 36" x 32" " " " " " bunkers.  
 2 G.N. Vents abaft breakwaters 6" x 4" C.S. openings 18" above " " " " " A.P. Space.  
 2 " " " Engine casing " " " " " " " " " " " "*

Particulars of Gangway Cargo and Coaling Ports:— *All ventilators closed by canvas covers and wood plugs and canvas covers as required.*

*None fitted.*





Particulars of Scuppers and Sanitary Discharge Pipes:—

Scuppers cut in deck stringer angle in way of bulwarks  
abreast E.B. casing. Scuppers abaft breakwater P+S led  
straight overboard.  
Sanitary discharge pipes fitted with C.S. storm valves  
at ship's side.

Particulars of Side Scuttles:—

None fitted.

Particulars of Guard Rails:—

Guard rails abreast hopper 3'-0" high with two wires, stanchions  
spaced 5'-6" apart.  
Bulwarks fitted forward and abaft hopper 3'-0" high of substantial  
construction.

Particulars of Gangways, Lifelines, etc.:—

Wood gangway over strongback, double rails and stanchions  
each side, strongly constructed and adequately supported.

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 ... ..			Flush Deck.			
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 ab. w. d.	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 Free- board or Raised Quarter Deck ...	44"	38"	4"x3"x32"	B.C. 27" E.C. 31"	B.Nts. at top.	4@2'0"x4'6"	15"	4'-0" ✓
Exposed Machinery Casings on Super- structure Decks ... ..	✓	✓	✓	✓	✓	✓	✓	✓
Machinery Casings within Superstruc- tures 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 Free- board or Raised Quarter Deck ...	Steel doors capable of being manipulated from both sides. ✓
Exposed Machinery Casings on Super- structure Decks ... ..	✓
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances ... ..	✓
Deckhouses on Flush Deck Ships ...	✓



The diagram is a hand-drawn plan view of a ship's hull, showing internal compartments and structural details. The hull is elongated and tapers at both ends. The top section is labeled "Superstructure Deck" and the bottom section is labeled "Freeboard Deck".

**Internal Compartments and Labels:**

- Top Section (Superstructure Deck):**
  - Left side: "A.P. Store", "A.P. Space", "E.C.", "B.C.", "H.C. for Hopper Door Gear", "Coil or oil Fuel", "Feed Tank P.T.", "Hopper", "Strong back."
  - Right side: "Crew's Accom.", "Hold Space", "F.P. Store", "F.P. Space".
- Bottom Section (Freeboard Deck):**
  - Left side: "Galle", "E.C.", "B.C.", "House for Hopper Door Gear", "Steel P.K.", "D.C.", "3 3/4\" R.P.", "3 3/4\" R.P.", "3 3/4\" R.P.", "Steel Break water.", "220'-0\" F.P.", "Hatch 3'0\" x 2'-6\" coaming 15' x 36\" led to F.P. Store, 2 1/2\" wood hatches, 2 tarpaulins, cleats and battening arrgts."
  - Right side: "Companion", "Companion", "F.P. Store", "F.P. Space".

**Structural Details:**

- Superstructure Deck:** A large, rounded structure at the top of the hull.
- Freeboard Deck:** A large, rounded structure at the bottom of the hull.
- Hatch:** A rectangular hatch on the left side of the Freeboard Deck, labeled "Hatch 3'0\" x 2'-6\" coaming 15' x 36\" led to F.P. Store, 2 1/2\" wood hatches, 2 tarpaulins, cleats and battening arrgts."
- Compartments:** Various compartments are labeled, including "A.P. Store", "A.P. Space", "E.C.", "B.C.", "H.C. for Hopper Door Gear", "Coil or oil Fuel", "Feed Tank P.T.", "Hopper", "Strong back.", "Crew's Accom.", "Hold Space", "F.P. Store", "F.P. Space", "Galle", "House for Hopper Door Gear", "Steel P.K.", "D.C.", "3 3/4\" R.P.", "Steel Break water.", "Companion", "Companion", "F.P. Store", "F.P. Space".

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

Vessel examined in drydock for freeboard purposes only.

Names of sister ships

Fee £ 8 : 10 : 0

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