

DISCLOSED SECTION NO. 231.  
Lloyd's Register of Shipping.  
SURVEYS FOR FREEBOARD.

Index No. 12209  
5 JAN 1933

Computation of Freeboard for ~~Steamer~~ Sailing Ship, Tanker  
having Flush Deck  
(Type of Superstructures.)  
Port of Survey Goolle  
Date of Survey Jan. 2nd 1933  
Name of Surveyor Malcolm  
Ship's Name "Elsie" Nationality and Port of Registry British London Official Number 108166 Gross Tonnage 240 Date of Build 1896-12  
Moulded Dimensions: Length 125.3 Breadth 20.74 Depth 10.8 x 560 tons  
Moulded displacement at moulded draught = 85 per cent. of moulded depth  
Coefficient of fineness for use with Tables .832  
Particulars of Classification +100A -  
Barge for being towed

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... .. 10.67	(a) Where D is greater than Table depth (D-Table depth) R =	Moulded Breadth (B) 20.74
Stringer plate ... .. .35	(10.71 - 8.35) .963 = + 2.27	Standard Round of Beam = $\frac{B \times 12}{50}$ = 4.98
Sheathing on exposed deck	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Ship's Round of Beam = 5 1/2
T $\left(\frac{L-S}{L}\right)$ = none	If restricted by superstructures	Difference
Depth for Freeboard (D) = 10.71		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L}\right)$ = $\frac{5.2}{4} = 1.3$

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 ... ..					
„ overhang ... ..					
Bridge enclosed ... ..					
„ overhang aft ... ..					
„ overhang forward ... ..					
Fore enclosed ... ..					
„ overhang ... ..					
Trunk aft ... ..					
„ 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 =

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ... ..	22.53	1		22.53	40.0	40.00	1		40.00
1/4 L from A.P. ... ..	10.07	4		40.08	12.5	12.64	4		50.56
3/4 L „ ... ..	7.48	2		14.96	3.0	3.16	2		6.32
Amidships ... ..	-	4		-	0		4		-
3/4 L from F.P. ... ..	4.96	2		9.92	5.0	5.23	2		10.46
1/4 L „ ... ..	20.85	4		80.70	20.5	20.94	4		83.76
F.P. ... ..	45.06	1		45.06	64.0	64.00	1		64.00
Total ... ..				202.75					255.10

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{202.75 - 255.10}{18} \left( .75 - \frac{1.36}{125.3} \right) = -2.18$  (limited)  
If limited on account of midship superstructure. If limited to maximum allowance of 1 1/2 ins. per 100 ft. = 1.88

Deduction for Tropical Freeboard.  
Addition for Winter and Winter North Atlantic Freeboard.  
Depth to Freeboard Deck = 10.71  
Summer freeboard = 1.35  
Moulded draught (d) = 9.36  
Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = 2.34 = 2 1/4  
Addition for Winter North Atlantic Freeboard (if required) =  
Deduction for Fresh Water.  
Displacement in salt water at summer load water line  
 $\Delta$  =  
Tons per inch immersion at summer load water line  
T =  
Deduction =  $\frac{\Delta}{40T}$  inches = 2 1/4  
TABULAR FREEBOARD corrected for Flush Deck (if required)  
Correction for coefficient  
Depth Correction ... .. 2.27  
Deduction for superstructures ... ..  
Sheer correction ... .. 1.85  
Round of Beam correction ... .. 1.3  
Correction for Thickness of Deck amidships ... ..  
Other corrections, scantlings, etc. ... ..  
Summer Freeboard = 16.28

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 „ „ ... .. 2 1/4	Fresh Water „ „ ... .. 1.3
Tropical Line „ „ ... .. 2 1/4	Tropical „ „ ... .. 1.3
Winter Line „ „ ... .. 2 1/4	Winter „ „ ... .. 1.3
Winter North Atlantic „ „ ... .. 2 1/4	Winter North Atlantic „ „ ... .. 1.3

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# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS			
Description of Hatchway	...	...	Main
Dimensions of Hatchway	...	...	68'4" x 13'4"
COAMINGS	Height above Deck	...	2'4"
	Thickness	...	.35
	Stiffeners	...	none
	Brackets, Stays	...	none
HATCH BEAMS	Number	...	5
	Spacing	...	See Sketch
	Scantling and Sketch	...	22' x 2 1/2" x 1/4" beam 3'3" x .30 nos 1, 3 + 5 beams. 15' x 22' x 1 1/4" beam 3' x 3' x 1/4"
	Bearing Surface	...	3"
FORE AND AFTERS	Number	...	3
	Spacing	...	even
	Unsupported Lengths	...	9-7, 9-5, 13-1, 11-3, 11-5, 11-1
	Scantling* and Sketch	...	Wood { Centre 7' x 6" x 1/4" see page 4 Side 6' x 4" x 1/4"
HATCH COVERS	Material	...	WV
	Thickness	...	22
	How fitted	...	thwartship
	Bearing Surface	...	22
Spacing of Cleats	...	...	27" to 30"
Number of Tarpaulins	...	...	2
<p>*Are wood fore and afters steel shod at all bearing surfaces? Yes</p> <p>Are battens and wedges efficient and in good condition? Yes</p> <p>Are tarpaulins in good condition and in accordance with rule requirements? Yes</p> <p>Are lashings provided in accordance with rule requirements? Ribs bolts provided.</p>			

aft chd coaming is thin & doubling is recommended.  
 The hatchway beams are permanently and efficiently attached to the hatchway coamings by riveted angles.  
 bearing angles on hatch webs, for fore & afters, are recommended to be overhauled and made good.  
 No 1 from aft + No 2 beam from aft are thin and are recommended to be renewed. Also No 5 beam from aft to be doubled at ends.  
 22' x 1 1/4" beam  
 3'3" x .32  
 nos 2 + 4 beams.  
 3' x 3' x 1/4"

Particulars of fiddle, funnel and ventilator coamings:—

— none —

Particulars of Flush Bunker Scuttles:—

1 cast steel, 17" dia. On fore deck to fore peak bayonet jointed & no chain.

Particulars of Companionways:—

Steel hood companionway forward of main hatchway 2'5" x 3'5" x 2'6" high to store room, steel door and sliding steel top with padlock. Sill 15" high.  
 Steel hood companion 5'0" x 2'6" x 5'0" high, aft of main hatchway, to crew accommodation, opening 3'3" x 1'9" x sill 12". closed by wood hinged door, access being from steel steering house.  
 Repairs are required to this companion door and to the door of the steering gear house.

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

Whod; 9" dia coamings, 30" high x 1/4"; Efficient closing appliances provided  
 wood plugs & canvas covers are required.  
 Ventilators constructed in accordance with Rule.

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

— none —

Particulars of Gangway Cargo and Coaling Ports:—

— none —



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Particulars of Scuppers and Sanitary Discharge Pipes:—

Freeboard deck scuppers are of gunwale bar type.  
Sanitary discharge pipe leads from deckhouse aft to shell below freeboard deck fitted with storm valve at slip side.

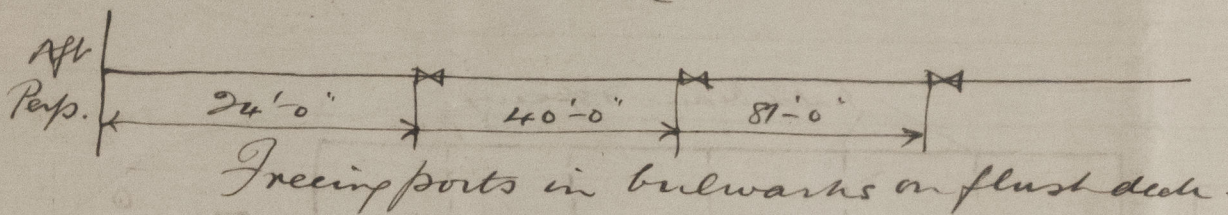
Particulars of Side Scuttles:—

— none —

Particulars of Guard Rails:— Steel bulwarks, fore and aft, 24' high, efficiently constructed and stayed.

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	125'-0"	24"	2'-0" x 12"	3	8.0	12.53
Forward Well						

State position of each freeing port ... } After Well:— 4"  
B. 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:— *hinged steel shutters*

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								
Deckhouses on Flush Deck Ships	26	26	3 1/2 x 23 x 3	4'-0"	none	3-6 x 1-8	12"	5'

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	Steel hinged door, 1 clip - to repair

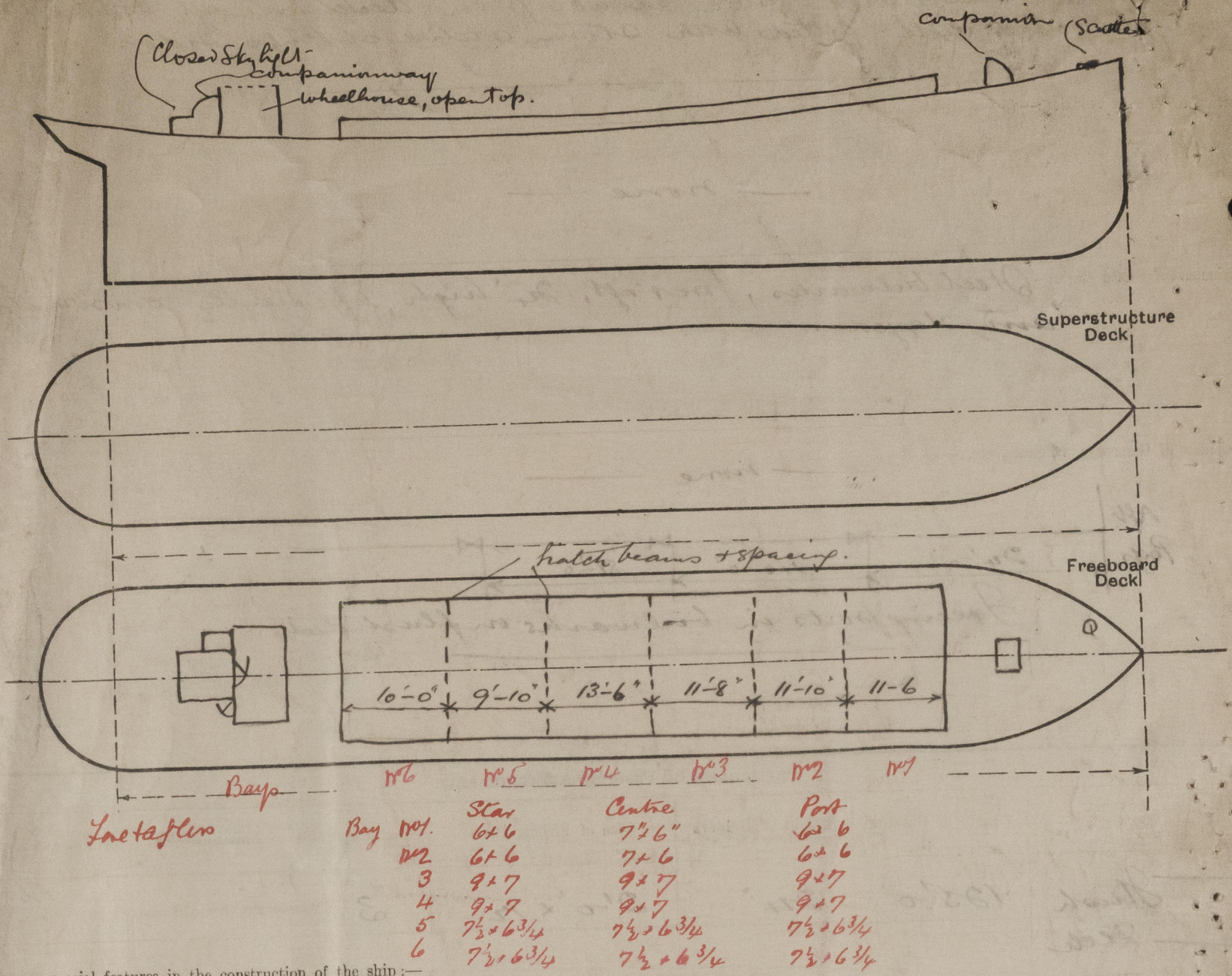


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Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shown on the following sketches:—



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

Freeboard survey held afloat.  
No part of special periodical survey held at this time.

Service of vessel: *Goole - London*

Builder's name and yard number *R. Craggs & Sons*  
Names of sister ships *'Edith'* Hull. No. 173.  
Owners *Goole & Hull Steam Towing Co. Ltd.*  
Fee £ *3* : *8* : *0*  
Received by me *[Signature]*



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