

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, ~~Sailing Ship~~, Tanker
having Poop Bridge and Forecastle. Port of Survey London

(Type of Superstructures.)

Date of Survey 31.3.32 &c

Name of Surveyor Thomas E. Sowden

Particulars of Classification +100 A.I.

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<u>Hulda Thorden</u>	<u>Finnish Helsinki</u>	<u>-</u>	<u>2404</u>	<u>1900-11</u>

Moulded Dimensions: Length 302.9 Breadth 42.96 Depth 22.37 ✓
Moulded Displacement at moulded draught = 85 per cent. of moulded depth 5762 tons
Coefficient of fineness for use with Tables .815 ✓

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>22.37</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(22.41 - 20.19) × 2.33 = +5.17</u> ✓	Moulded Breadth (B) <u>42.96</u>
Stringer plate <u>50"</u> <u>.04</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{42.96 \times 12}{50} = 10.31 ✓$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <u>10.75</u> ✓
Depth for Freeboard (D) = <u>22.41</u>		Difference <u>.44</u> ✓
		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.44}{4} \left(1 - \frac{44.71}{42.96} \right) = -.06$ ✓

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	<u>24.10</u>	<u>24.87</u>	<u>4.0</u>	✓	<u>24.87</u>	Standard Height of Superstructure <u>6.53</u> ✓
" overhang	<u>4"</u>	<u>.17</u>	<u>4.0</u>		<u>.17</u>	" " R.Q.D. <u>35.52</u> ✓
R.Q.D. enclosed						Deduction for complete superstructure <u>35.52</u> ✓
" overhang						Percentage covered $\frac{S}{L} = \frac{45.41}{42.96} = 1.057$ ✓
Bridge enclosed... ..	<u>78.0</u>	<u>78.00</u>	<u>4.0</u>	✓	<u>78.00</u>	" " $\frac{S_1}{L} = \frac{44.71}{42.96} = 1.041$ ✓
" overhang aft	<u>4"</u>	<u>.25</u>	<u>4.0</u>		<u>.25</u>	" " $\frac{E}{L} = \frac{44.71}{42.96} = 1.041$ ✓
" overhang forward	<u>34.0</u>	<u>32.14</u>	<u>4.0</u>	✓	<u>32.14</u>	Percentage from Table, Line A. (corrected for absence of forecastle (if required))
Forecastle OPEN	<u>34.0</u>	<u>32.14</u>	<u>4.0</u>	✓	<u>32.14</u>	Percentage from Table, Line B. <u>31.50</u> ✓
" overhang	<u>2.0</u>		<u>4.0</u>			(corrected for absence of forecastle (if required))
Trunk aft						Interpolation for bridge less than 2L (if required) ✓
" forward						Deduction = <u>35.52 × .315 = -11.19</u> ✓
Tonnage opening aft						
" forward						
Total	<u>137.53</u>	<u>135.43</u>			<u>135.43</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	<u>40.29</u>	1		<u>40.29</u>	<u>51.0</u>	<u>51.00</u>	1		<u>51.00</u>	Mean actual sheer aft = <u>excess</u>
$\frac{1}{4}$ L from A.P.	<u>17.93</u>	4		<u>71.72</u>	<u>22.22</u>	<u>22.12</u>	4		<u>88.48</u>	Mean actual sheer forward = <u>excess</u>
$\frac{2}{4}$ L "	<u>4.43</u>	2		<u>8.86</u>	<u>5.5</u>	<u>5.53</u>	2		<u>11.06</u>	Mean standard sheer aft
Amidships	<u>-</u>	4		<u>-</u>	<u>-</u>	<u>-</u>	4		<u>-</u>	Mean standard sheer forward
$\frac{3}{4}$ L from F.P.	<u>8.86</u>	2		<u>17.72</u>	<u>10.1</u>	<u>10.07</u>	2		<u>20.14</u>	Length of enclosed superstructure forward of amidships = <u>.132</u> ✓
$\frac{1}{4}$ L "	<u>35.86</u>	4		<u>143.44</u>	<u>40.40</u>	<u>40.29</u>	4		<u>161.16</u>	" " aft of " = <u>.125</u> ✓
F.P.	<u>80.58</u>	1		<u>80.58</u>	<u>93.0</u>	<u>93.00</u>	1		<u>93.00</u>	
Total				<u>362.61</u>					<u>424.84</u>	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{62.23}{18} \left(\frac{75-2270}{523} \right) = -1.81$ ✓

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 corrected for Flush Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{.815 + .68}{1.36} \frac{1.495}{1.36}$
Depth to Freeboard Deck = <u>22.41</u>	$\Delta =$	Depth Correction <u>5.17</u> ✓
Summer freeboard = <u>3.37</u>	Tons per inch immersion at summer load water line	Deduction for superstructures <u>11.19</u> ✓
Moulded draught (d) = <u>17.04</u>	T =	Sheer correction <u>1.81</u> ✓
Deduction for Tropical freeboard and addition for	Deduction = $\frac{\Delta}{40T}$ inches	Round of Beam correction <u>.06</u> ✓
Winter freeboard = $\frac{d}{4}$ inches = <u>4.76</u> ✓	T.P.1	Correction for Thickness of Deck amidships <u>-</u>
Addition for Winter North Atlantic Freeboard (if required) = <u>2.0</u> ✓	<u>26. from 16.10 draught.</u>	Other corrections, scantlings, etc. <u>-</u>
		Summer Freeboard = <u>40.61</u> ✓

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	3' - 4 1/2" FREEBOARDS ASSIGNED UNDER 1906 REGULATIONS
Fresh Water Line " "	Fresh Water " "	
Tropical Line " "	Tropical " "	
Winter Line below " "	Winter " "	
Winter North Atlantic Line " "	Winter North Atlantic " "	

Hilda Thorden

Particulars of fiddle, funnel and ventilator coverings:—
Stokehold grating covered with ~~portable~~ plate cover
Secured by clips at side and permanently attached
Fidley Ventilators in efficient condition ✓
E.R.M. Skylight & Gallery Skylights of steel strongly constructed ✓

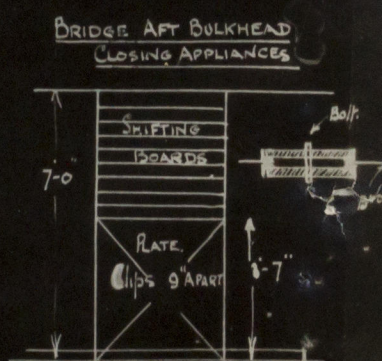
None. ✓

Companion ways:— 1 Steel Companion 4'-0" x 2'-9" x 5'-3" high on forecastle deck leading to enclosed forecastle; door of steel 4'-8" x 22" operated from both sides. Sill 8" above wood dk.

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

of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—
 4-2" air pipes to STB: 2'-0" high on aft well deck.
 2-2" " " " 20" " fore
 2-2" " " " 36" " bridge deck ✓
 Air pipes ~~are~~ fitted with ~~plugs & snifting valves~~ efficient means of closing.

None.



Particulars of Side Scuttles :

All Side Scuttles to crew spaces in forecastle and bridge provided with fixed deadlights and of substantial construction ✓

Lamp Standards of Guard Rails :—

Guard rails on forecastle and poop decks 3'-3" high with two rods and stanchions spaced 4'-0" apart. ✓
Steel bulwarks 3'-0" high efficiently constructed and supported on Bridge deck. ✓

Particulars of Gangways, Lifelines, etc.:—

~~None fitted~~ Satisfactory lifelines are provided in the wells for the protection of the crew.

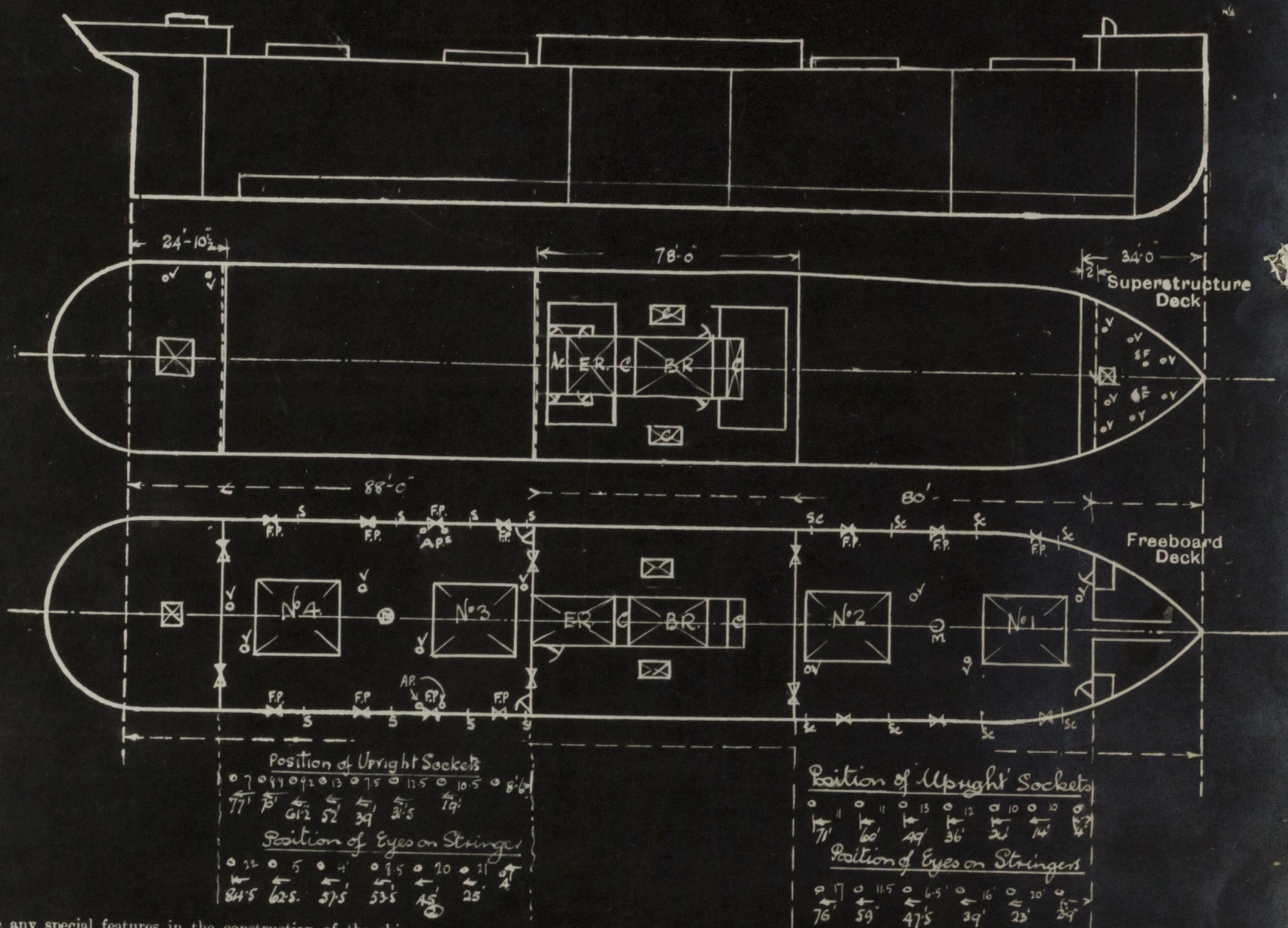
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	88.0 ft.	3'-6"	$36 \times 9"$ 30×15 40×9 54×9 30×15 55.5×9	$\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ $\frac{3}{4}$ $\frac{1}{4}$	12.5 sq ft. $17\frac{1}{2}$	17.6 p.
Forward Well	80.0 ft.	3'-6"	$36 \times 9"$ 30×15 40×9 54×9 30×15 55.5×9	$\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ $\frac{3}{4}$ $\frac{1}{4}$	8.45 sq ft. 12	16.0 p.
State position of each freeing port } After Well:— 1'-0" above deck. See plan. - (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 — forward ports fitted with 2 horizontal bars each after ports fitted with hinged plate shutter & 1 bar each ✓ 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	3'6" x 38	38	5½ x 3½ x 38	24"	Brackets top & bottom	2 x 4'2" x 3'6"	24"	7'0"
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead	39" x 30	30	3 x 3 x 38 and 8 R. Casings.	4'6"	-	2 x 35" x 36"		7'0"
Bridge, Forward Bulkhead	30" x 36	30	7 x 3 x 30 B.A.	30"	Brackets top & bottom	2 x 24" x 27"	43"	7'0"
Forecastle Bulkhead	Vert. Plating	30	2½ x 2½ x 30	24"	-	2 x 4'6" x 24" 1 x 4'6" x 36"	21"	7'0"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Fore- ward & Raised Quarter Decks ...	18" x 36	30	3 x 3 x 38	48"	None	1 x 20" x 24"	18"	7'0"
Exposed Machinery Casings on Super- structure Decks	34" x 36	30	3 x 3 x 38	48"	None	48" x 24" 54" x 24"	18"	7'0"
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).

Top Bulkhead	...	...	Wood boards full height in riveted channels ✓
Raised Quarter Deck Bulkhead	...	...	2 hinged doors, steel, operated from both sides. ✓
Bridge, After Bulkhead	...	...	2 as per sketch at left. ✓
Bridge, Forward Bulkhead	...	...	2 hinged plate doors secured by clips 18" apart on screw bolts operated from outside only. ✓
Pony Islet Bulkhead	...	...	2 hinged steel doors at sides; Bulkhead open at centre line. ✓
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	...	...	Steel hinged doors operated from both sides ✓
Exposed Machinery Casings on Superstructure Decks	...	...	Steel hinged door operated from both sides. ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...	...
Deckhouses on Flush Deck Ships	...	...

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:—



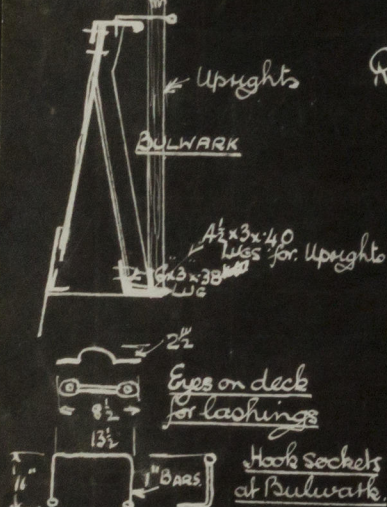
State any special features in the construction of the ship:—

For Timber deck cargoes:—

Rule Lxxxii. The double bottom tanks were not opened up but were stated to have no w.t. longitudinal subdivision.

Rule Lxxxiii. Bulwarks in wells:— 3'-6" high x .25 ; Angle stays 3 1/2 x 5/8 x 38' 0" apart. Top rail. 6 x 3 x 40 B.A. (See Sketch)

Rule Lxxxvii. Steering rods & chains are protected by the bulwark stays & by distribution of the cargo



It is recommended that:—

- ① Hatch beams to be repaired (lays for 4' 0")
- ② Broken 2nd hatch to be renewed.
- ③ That hatch covers be renewed as necessary.
- ④ That the bridge front bulkhead in way of 1st door be repaired.

The double bottom tanks within the midship half length of the vessel are provided with adequate longitudinal subdivision. Strong angle sockets for the uprights are spaced not more than 10 feet apart. Eye plates for lashings are riveted to the sheerstrake, spacing not exceeding 10 ft and the distance from an end bulkhead to the first eyeplate does not exceed 6'-6"

Builder's name and yard number. Blyth Shipbuilding Co. No 102.

Names of sister ships

Owners Rederi A/B Thor. (G.B. Thorden Manager)

Fee £ 12 : 0 : 0 Received by me 2/6/32



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