

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

 Index. No. 14705
 (For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship, Tanker					Port of Survey <u>London</u>	
having <u>Poop Bridge and Forecastle.</u>					Date of Survey <u>31.3.32 &c</u>	
(Type of Superstructures.)						
Ship's Name <u>Hulda Thorden.</u>	Nationality and Port of Registry <u>Finnish Helsinki</u>	Official Number <u>-</u>	Gross Tonnage <u>2404</u>	Date of Build <u>1900-11</u>	Name of Surveyor <u>Thomas E. Sowden</u>	
Moulded Dimensions: Length <u>302.9</u> Breadth <u>42.96</u> Depth <u>22.37</u> <u>5762</u> tons					Particulars of Classification <u>+100 A.I.</u>	
Moulded displacement at moulded draught = 85 per cent. of moulded depth						
Coefficient of fineness for use with Tables <u>.815</u>						

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) x 2.33 = +5.17</u>	Moulded Breadth (B) <u>42.96</u>
Stringer plate <u>.52</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 = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.44^2}{4} \times \left(1 - \frac{.44}{42.96} \right) = .06$

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>
" overhang ...	<u>4</u>	<u>.17</u>	<u>4.0</u>		<u>.17</u>
R.Q.D. enclosed					
" overhang					
Bridge enclosed...	<u>78.0</u>	<u>78.00</u>	<u>4.0</u>	✓	<u>78.00</u>
" overhang aft ...	<u>4</u>	<u>.25</u>	<u>4.0</u>		<u>.25</u>
" overhang forward	<u>34.0</u>	<u>32.14</u>	<u>4.0</u>	✓	<u>32.14</u>
Forecastle OPEN ...	<u>32.0</u>		<u>4.0</u>		<u>.14</u>
" overhang ...	<u>2.0</u>		<u>4.0</u>		
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward					
Total ...	<u>137.53</u>	<u>135.43</u>			<u>135.43</u>

Standard Height of Superstructure	<u>6.53</u>
" " R.Q.D.	
Deduction for complete superstructure	<u>35.52</u>
Percentage covered $\frac{S}{L} =$	<u>45.41</u>
" " $\frac{S_1}{L} =$	<u>44.71</u>
" " $\frac{E}{L} =$	<u>44.71</u>
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	
Percentage from Table, Line B. <u>31.50</u>	
(corrected for absence of forecastle (if required))	
Interpolation for bridge less than 2L (if required)	✓
Deduction = <u>35.52 x .315 = - 11.19</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>
$\frac{1}{4}$ 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>
$\frac{2}{4}$ L " ...	<u>4.43</u>	2		<u>8.86</u>	<u>5.5</u>	<u>5.53</u>	2		<u>11.06</u>
Amidships ...	-	4		-	-	-	4		-
$\frac{3}{4}$ L from F.P. ...	<u>8.86</u>	2		<u>17.72</u>	<u>10.10</u>	<u>10.07</u>	2		<u>20.14</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>
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 = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{62.23}{18} \left(.75 - \frac{2270}{2270} \right) = -1.81$

If limited on account of midship superstructure. ✓

If limited to maximum allowance of 1½ ins. per 100 ft. ✓

 Deduction for Tropical Freeboard.
 Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 22.41
 Summer freeboard = 3.37
 Moulded draught (d) = 19.04

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 4.76 $\frac{3}{4}$

Addition for Winter North Atlantic Freeboard (if required) = 2.0

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
 T.P. 1
26. from 16.18 draught.

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.815 + .68}{1.36} \frac{1.495}{1.36}$

	+	-
Depth Correction ...	<u>5.17</u>	-
Deduction for superstructures ...	-	<u>11.19</u>
Sheer correction ...	-	<u>1.81</u>
Round of Beam correction ...	-	<u>.06</u>
Correction for Thickness of Deck amidships ...	-	-
Other corrections, scantlings, etc. ...	-	-
	<u>5.17</u>	<u>13.06</u>

Summer Freeboard = 40.61

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 " " ...	...
Winter North Atlantic Line " " ...	...

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

3' - 4 1/2" FREEBOARDS
 ASSIGNED
 UNDER 1906
 REGULATIONS
 Lloyd's Register
 Foundation

Hulda Thorelen

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

None. ✓

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

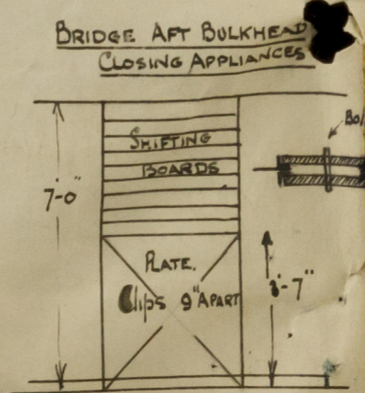
2-4½" Stove funnel coamings 13" above wood
 2-16" dia. vents on freeboard deck in wells coamings 36" high x 38. led to holds. ✓
 2-7½" " " bridge " coamings 19" high led to bunkers. ✓
 1-6" " " " poop " " 9" " " " poop.
 1-4" " " " " " " 7½" " " " " "

All ventilators constructed in accordance with Rules & soundings closed with wood plugs & canvas cover.

4-2" air pipes to STB's. 2'-0" high on aft well deck.
2-2" " " " " 20" " fore " "
2-2" " " " " 36" " bridge deck

Air pipes ~~not~~^{are} fitted with ~~plugs or snifting holes.~~^{efficient means of closing}

None.



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

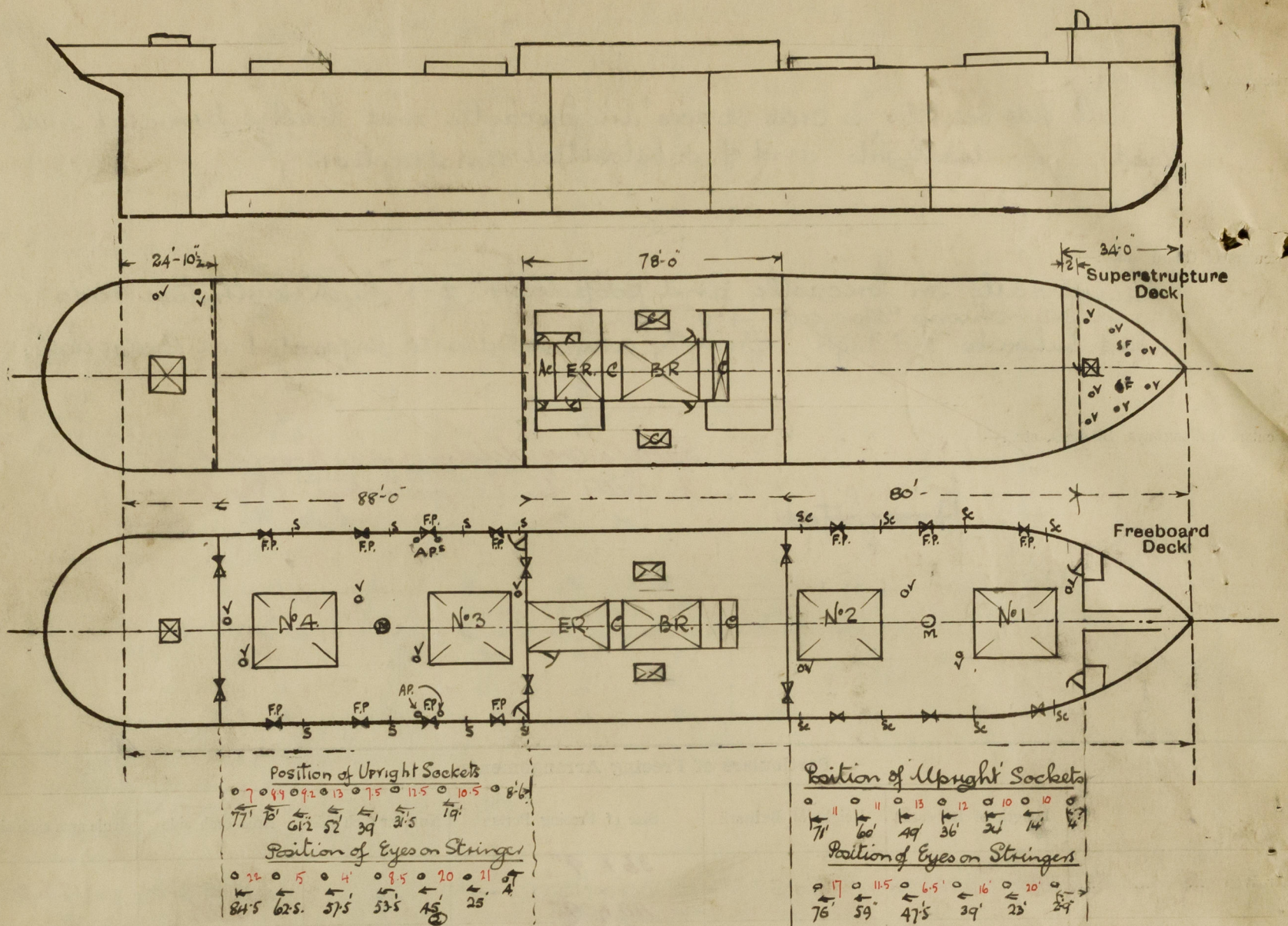
Guard rails on forecastle and poop decks 3'-3" high with two rods and stanchions spaced 4'-0" apart. ✓
Steel bulwarks 3'-0" high efficiently constructed and supported on Bridge deck. ✓

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

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	3'-6" x 38'	38'	5 1/2 x 3 1/2 x 38'	27"	Brackets 1/3p & 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 4 R. Casings.	4'-6"	-	2 x 35" x 36"		7'-0"
Bridge, Forward Bulkhead	30" x 36'	30'	7 x 3 x 50 B.A.	30"	Brackets 1/3p & bottom	2 @ 27" x 27"	43"	7'-0"
Forecastle Bulkhead	Vent. Plating	30'	2 1/2 x 2 1/2 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 @ 35" x 24"	18"	7'-0"
Exposed Machinery Casings on Super- structure Decks	39" x 36'	30'	3 x 3 x 38'	48"	None	48" x 24" 54 x 24"	18" 18"	7'-0"
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances								
Deckhouses on Flush Deck Ships ...								

Head	...	...	Wood boards full height in riveted channels ✓
Raised Quarter Deck Bulkhead	...	...	2 hinged doors, steel, operated from both sides. ✓ 2 as per sketch at left. ✓
Bridge, After Bulkhead	...	...	2 hinged plate doors secured by clips 18" apart on screws bolts operated from outside only. ✓
Bridge, Forward Bulkhead	...	...	2 hinged steel doors at sides; Bulkhead open at centre line. ✓
Forecastle Bulkhead	...	...
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	...	...
Dachhouses on Finish 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 shewn on the following sketches:—

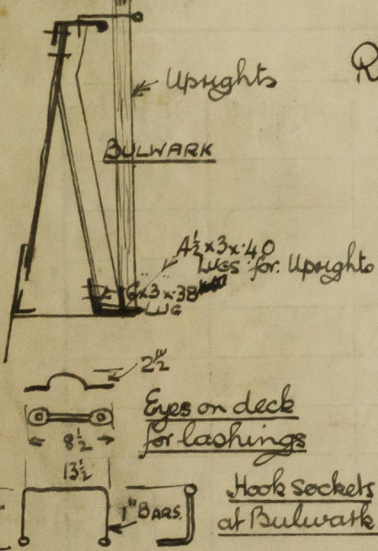


State any special features in the construction of the ship:—

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 3 1/2 x 38 3/8 ft 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 No 1 & 4 hatches be repaired (logs for 4 & 1's)
- ② Broken 2 & 4 rest to No 2 hatch be renewed.
- ③ That hatch covers be renewed as necessary
- ④ That the bridge front bulkhead in way of 3rd 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 shestrake, 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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