

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Index No. **34009**  
(For London Office only.)No. **99847**

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having

*Forecastle*Port of Survey *Liverpool*

(Type of Superstructures.)

Date of Survey *5/2/32 and subsequent*

Ship's Name

**"HILARY"**

Nationality and Port of Registry

*British  
Liverpool*

Official Number

**162350**

Gross Tonnage

**7420**

Date of Build

**1911-46**Name of Surveyor *A.W. Jackson*Moulded Dimensions: Length **420.0'** Breadth **56.0'** Depth **37.05'**Moulded displacement at moulded draught = 85 per cent. of moulded depth **15390** tonsCoefficient of fineness for use with Tables **.724**Particulars of Classification **100A1 - with freeboard.**

Depth at Marking	Depth for Freeboard (D)	Depth correction	Round of Beam correction
.05 Moulded depth	37.05	(a) Where D is greater than Table depth (D - Table depth) R = (37.26 - 38.00) x 3 = + 24.48	Moulded Breadth (B) <b>56.0'</b>
.04 Stringer plate <b>.48"</b>	.04	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = 13.44$
.21 Sheathing on exposed deck <b>2 1/2" P.P.</b>			Ship's Round of Beam = <b>13"</b>
.30 T $\left(\frac{L-S}{L}\right) = .21 \times .8164 = .17$	.17		Difference <b>.44</b>
.26			Restricted to
.04			Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{.44^2}{4} \times .8164 = .09$
.12			
.18			
	Depth for Freeboard (D) = <b>37.26</b>	If restricted by superstructures	

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S)	Height steel to steel	Height Correction	Effective Length (E)
Poop enclosed ...					
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
File enclosed ...	<b>44.10</b>	<b>44.10</b>	<b>8.6</b>		<b>44.10</b>
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	<b>44.10</b>	<b>44.10</b>			<b>44.10</b>

Standard Height of Superstructure **4.50**" " R.Q.D. **✓**Deduction for complete superstructure **42.00**Percentage covered  $\frac{S}{L} = 18.36$ " "  $\frac{S_1}{L} = 18.36$ " "  $\frac{E}{L} = 18.36$ Percentage from Table, Line A. **9.18**  
(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 =  $42.00 \times .0918 = -3.86$ 

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	52.00	1		52.00	53.0	53.00	1		53.00
1/4 L from A.P. ...	23.14	4		92.56	23.70	23.70	4		94.80
1/2 L " ...	5.42	2		11.44	5.92	5.92	2		11.84
Amidships ...	-	4		-	-	-	4		-
3/4 L from F.P. ...	11.44	2		22.88	11.55	11.55	2		23.10
1/4 L " " ...	46.28	4		185.12	46.21	46.21	4		184.84
F.P. ...	104.00	1		104.00	105.75	105.75	1		105.75
Total ...				468.00					473.33

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{.75 - S}{2L} \right) = \frac{5.33}{18} \times (.75 - .0918) = .19$ If limited on account of midship superstructure. **NIL**

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.

Depth to Freeboard Deck = **37.30**Freeboard = **12.77**Summer Moulded draught (d) = **24.53**

Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = **6.13 = 6 1/4"**Addition for Winter North Atlantic Freeboard (if required = **✓**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 11583$ 

Tons per inch immersion at summer load water line

T = **43.8**Deduction =  $\frac{\Delta}{40T}$  inches= **6.62**= **6 1/2"**

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient

Depth Correction ... **24.48**Deduction for superstructures ... **3.86**Sheer correction ... **✓**Round of Beam correction ... **.09**Correction for Thickness of Deck amidships ... **.48**Other corrections, scantlings, etc. ... **48.24**

with approved moulded draught for winter of 24'-0"

SUMMER Freeboard = **15.18**

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

Tropical Fresh Water Line above Centre of Disc ...	<b>12 3/4"</b>	Tropical Fresh Water Freeboard ...	<b>11.18</b>
Fresh Water Line " " ...	<b>6 1/2"</b>	Fresh Water " " ...	<b>12'</b>
Tropical Line " " ...	<b>6 1/4"</b>	Tropical " " ...	<b>12'</b>
Winter Line below " " ...	<b>6 1/4"</b>	Winter " " ...	<b>13'</b>
Winter North Atlantic Line " " ...	<b>6 1/4"</b>	Winter North Atlantic " " ...	<b>13'</b>

A passenger line to be marked **6 1/4"** below the centre of disc

RECEIVED 15 MAY 1932



### PARTICULARS OF PROTECTION TO OPENINGS, ETC.

### HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

Description of Hatchway		N <sup>o</sup> . 1 Feeder OK Trunked	N <sup>o</sup> . 2 Upper OK	N <sup>o</sup> . 3 Upper OK Trunked	N <sup>o</sup> . 4 Upper OK Trunked	N <sup>o</sup> . 5 Upper OK Trunked
Dimensions of Hatchway		18" x 14"	18" 5/8" x 15" 1/2"	18" 5/8" x 15" 1/2"	18" 5/8" x 15" 1/2"	18" 5/8" x 15" 1/2"
COAMINGS	Height above Deck	30"	30"	30"	30"	30"
	Thickness { Sides	3/4"	3/4"	3/4"	3/4"	3/4"
	{ Ends	3/4"	3/4"	3/4"	3/4"	3/4"
	Stiffeners	7 x 3" x 4" A.R.	7 x 3" x 4" A.R.	7 x 3" x 4" A.R.	7 x 3" x 4" A.R.	7 x 3" x 4" A.R.
Brackets, Stays		Sides only 1-1 3/4" W.L.	As N <sup>o</sup> . 1 Nil.	As N <sup>o</sup> . 1 Nil.	As N <sup>o</sup> . 1 1-1 3/4" W.L.	As N <sup>o</sup> . 1 1-1 3/4" W.L.
HATCH BEAMS	Number	3	3	2	3	3
	Spacing	4'-6"	4'-7 1/2"	4'-5"	4'-7 1/2"	4'-7 1/2"
	Scantling and Sketch	Pl. 12 1/2" x 32 As 3' x 3' x 4 1/2"	13" x 34" 3 1/2" x 3' x 4 1/2"	As N <sup>o</sup> . 2	As N <sup>o</sup> . 2	As N <sup>o</sup> . 2
	Bearing Surface	3"	3 1/2"	3 1/2"	3 1/2"	3 1/2"
FORE AND AFTERS	Number					
	Spacing					
	Unsupported Lengths					
	Scantling* and Sketch					
Bearing Surface						
HATCH COVERS	Material	W.P.	W.P.	W.P.	W.P.	W.P.
	Thickness	3"	3"	3"	3"	3"
	How fitted	F+A	F+A	F+A	F+A	F+A
	Bearing Surface	3"	3"	3"	3"	3"
Spacing of Cleats		22"	24"	23"	24"	23"
Number of Tarpaulins		3	3	3	3	3

\*Are wood fore and afters steel shod at all bearing surfaces? Nil.

Are battens and wedges efficient and in good condition? Yes.

Are tarpaulins in good condition and in accordance with rule requirements? Yes.

Are lashings provided in accordance with rule requirements? Yes.

Particulars of fiddle, funnel and ventilator coverings:— Stakehold gratings covered by strong steel hinged covers.  
Funnel and Fiddle ventilators in efficient condition.  
Engine skylight of steel, strongly constructed.

Particulars of Flush Bunker Scuttles:— Six scuttles on upper deck of cast steel, fitted with bayonet joints and stowed in clips on bulwarks abreast deck openings.

Particulars of Companionways :—

Particulars of Ventilators in exposed positions on freeboard and superstructure decks :—				All heights of coamings measured from top of rood dk.			
1 Vent on fore deck 23" diam. Coaming 37"x40" led to No 1 Hold.				All ventilators constructed in accordance with the Rules, and coamings closed with wood plugs and caulked covers.			
2 " " " " " 12" " " 37"x36" " crew accom."				4 Vents on up dk. 12 diam. coaming 37"x34, led to No 2 Hold.			
4 " " " " " 10" " " 37"x32" " " "				2 " " " " " 18" " " 37"x40, " " "			
2 " " " " " 16" " " 37"x34" " " "				259 N. " " " 12x4" " " 37"x40, " " "			
2 " " " " " 18" " " 37"x38" " No 1 Hold.				5 " " " " " 6"x4" " 28" c/s " " pass. accom."			
2 " " " " " 21½" " " 37"x40" " No 2 " "				4 Vents " " " 22"x13" alongside midship house, flaps 5" above rood dk, led to tween deck spaces.			
1 " " " " " 8" " " 37"x40" " " "				2 Vents on up dk. 8" diam. coamings 30"x32, led to crew accom."			
2 " " " " " 6" " " 37"x32" " crew accom."				2 " " " " " 16" " " 37"x40, led to No 4 Hold.			
				2 " " " " " " " " 37"x40, " " No 5 " "			
Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks :—							
2 C.S. band, No. 1 Air pipes on fore dk, 24½" x 22" diam from Fore Peak.							
" " " " " " " " 23½" x 3" " D.B. Tank.							
" " " " " " " " upper " " 23½" x 4½" " "							
" " " " " " " " " " 20½" x 1½" " "							
" " " " " " " " " " 22½" x 3" " "							
" " " " " " " " " " 22½" x 4½" " "							
" " " " " " " " " " 22½" x 2½" " "							
" " " " " " " " " " 20½" x 2½" " "							
				After Peak			

Three watertight coaling doors P. and S. between freeboard and second decks in way of No. 3 Hold, size 28"x28" efficiently constructed and tap bolted to side plating.

Particulars of Scuppers and Sanitary Discharge Pipes — *Fitted with gunmetal storm valves at ships sides, in accordance with the Rules.* ✓

Particulars of Side Scuttles: *Side scuttles to stater accommodation provided with hinged deadlights and in passenger accommodation with portable deadlights in spaces below upper deck. All scuttles of substantial construction.*

Particulars of Guard Rails:— Guard rails on freeboard deck 33" above top of sheerstrake having five rods and stanchions spaced 54" apart. Steel bulwarks on freeboard deck abreast midship erections 33" above top of sheerstrake efficiently constructed and supported.

Guard rails on fore 36" high with three rods and stanchions spaced 4' 9" apart.

Particulars of Gangways, Lifelines, etc. :—

## 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 ... ..						
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.

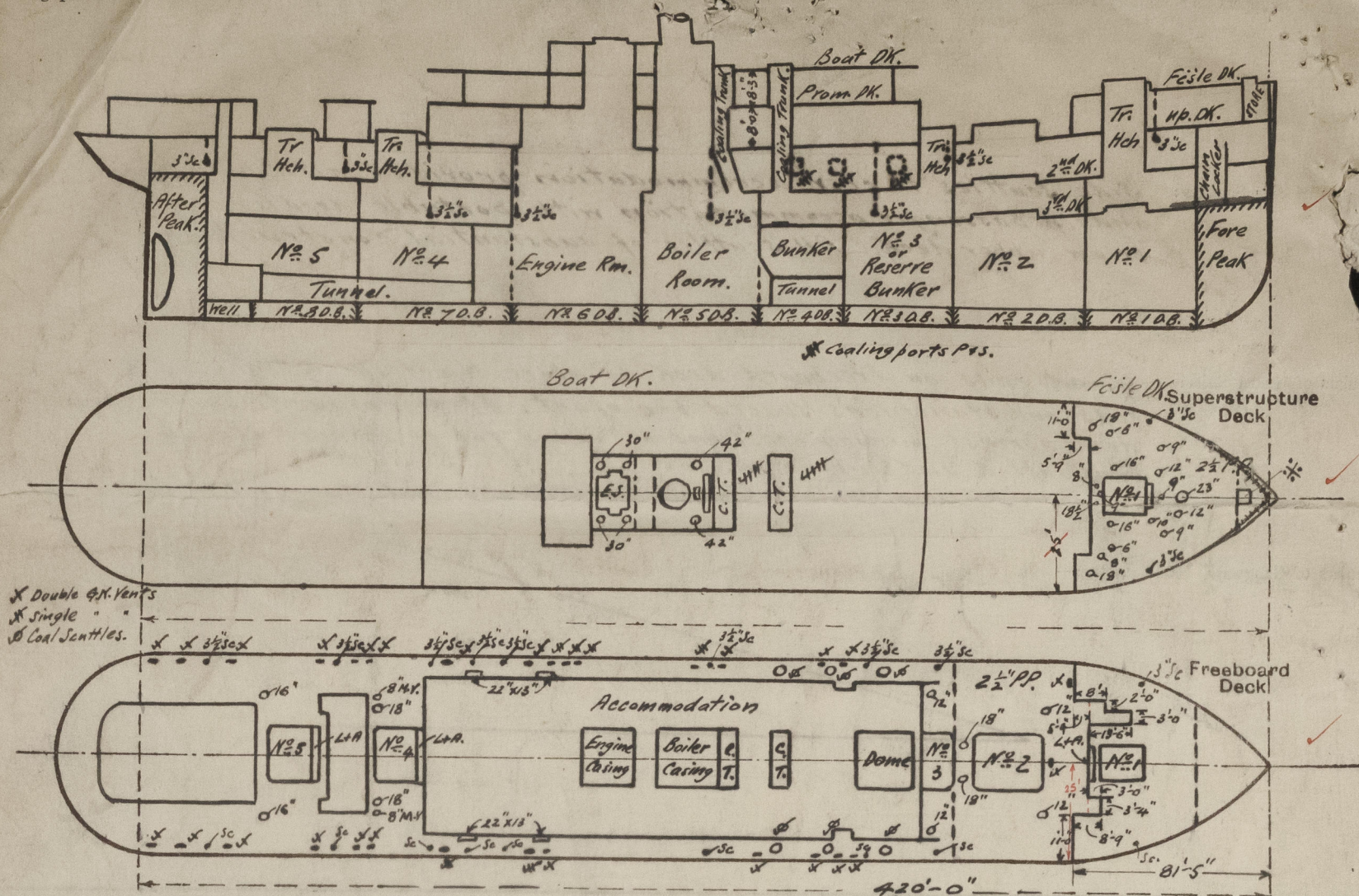
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ... ..								
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead ... ..								
Bridge, Forward Bulkhead ... ..								
Forecastle Bulkhead <i>Sidehouses.</i>	✓	32" ✓	3" x 2 1/2" x 28" and plating flanged 3"	32" + 27"	Stiffeners form door posts, conn. to beams at head where possible.	5'-0" x 2'-4"	17" above wood deck.	8'-0" steel dk. to steel
Trunk, Aft ... ..								
Trunk, Forward ... ..								
Exposed Machinery Casings on Free- board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super- structure Decks ... ..								
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances ... ..								
Deckhouses on Flush Deck Ships ...	28	28	4 x 2 1/2 x 30	3 1/2"	Lugs at bottom.	5'-2" x 4'-3" 4'-9" x 2'-3"	12" 18"	8 ft

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 - Side houses	...	Heavy Teak doors capable of being manipulated from both sides.
Exposed Machinery Casings on Fore-	...	
board or Raised Quarter Decks	...	
Exposed Machinery Casings on Super-	...	
structure Decks	...	
Machinery Casings within Superstruc-	...	
tures 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:—



\* Hatch on Fore Head 42"x26 1/2", coaming 30"x44", 3"wood hatches, 2 tarpaulins, cleats and battening down arrgts.  
 4\*\* Coaling hatches on boat deck 7'0"x14'0", coamings 4 1/2"x3 1/2"x6 2/3 B.P.s, 3"wood hatches, fore and aft, 2 tarpaulins, cleats and battening down arrangements.  
 2 1/2 P.P. on exposed portions of upper, and on fore dks.  
 Sheers measured in drydock, bottom sighted.

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

Draft (Extreme)	Disp. (Tons)
28'0"	13480
27'0"	12920
26'0"	12390
25'0"	11850

Forecastle 81' 42"  
 Beduel 14.0 x 5.75 = 3.22  
 25.0  
 2.25 x 5.0 = .22  
 50.0  
 11.25 x 3.0 = .68  
 50.0  
 3.0 x 3.33 = .20  
 50.0  
 4.32  
 44.10

Owner's name and yard number Cammell, Laird & Co. No. 975.

Names of sister ships ✓

Owners Booth Steamship Co. Ltd.

Fee £ 15 : 6 : 0

Received by me



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Lloyd's Register Foundation



Name of Ship

HILARY

Freeboard Report Examined

(Date)

April 1957

Signed

*[Signature]*

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