

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

2453

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having **R.O.D. Bridge & Forecastle**

Port of Survey **Barrow**

Date of Survey **29th April 1932**

Name of Surveyor **J. Hodgson**

Particulars of Classification **100 A1**

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
LOUGH FISHER	British Barrow	145546	115	1921

Moulded Dimensions: Length **142.7** Breadth **24.0** Depth **12.0**

Moulded displacement at moulded draught = 85 per cent. of moulded depth **684** tons

Coefficient of fineness for use with Tables **684 x 35 / 142.7 x 24 = 10.2** **686**

Depth for Freeboard (D)	$\frac{1}{15} = 9.51$	Depth correction $\frac{1}{150} R = 1.098$	Round of Beam correction
Moulded depth ...	12.0	(a) Where D is greater than Table depth (D - Table depth) R = (12.03 - 9.51) 1.098 = 2.77	Moulded Breadth (B) 24.0
Stringer plate ...	0.33	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = 5.76$
Sheathing on exposed deck	0.03	If restricted by superstructures	Ship's Round of Beam = 6
$T \left(\frac{L-S}{L} \right) =$	12.03		Difference 24
Depth for Freeboard (D) =	12.03		Restricted to
			Correction = $\frac{\text{Diff}^0}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{24}{4} \times 0.175 = 1.05$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	-	-	-	-	-
" overhang ...	-	-	-	-	-
R.Q.D. enclosed ...	86.25	86.25	2.50	2.5	65.66
" overhang ...	-	-	-	-	-
Bridge enclosed ...	8.75	8.75	4.17	-	8.75
" overhang aft ...	-	-	-	-	-
" overhang forward ...	50	25	"	-	25
Forecastle enclosed ...	21.70	21.70	6.92	-	21.70
" overhang ...	1.50	75	"	-	75
Trunk aft ...	-	-	-	-	-
" forward ...	-	-	-	-	-
Tonnage opening aft ...	-	-	-	-	-
" " forward ...	-	69	-	-	69
Total ...	118.40	117.40	-	-	97.4

Standard Height of Superstructure **Bridge & Forecastle = 6'**

" " R.Q.D. **3.284**

Deduction for complete superstructure $14 + (142.7 - 80) \frac{20}{200} = 20.27$

Percentage covered $\frac{S}{L} = \frac{832.83.18}{142.7} = 59.67\%$

" " $\frac{S_1}{L} = \frac{825.22.47}{142.7} = 59.67\%$

" " $\frac{E}{L} = \frac{680.4}{142.7} = 4.77\%$

Percentage from Table, Line A. **46 + 17.8 = 59.67%**

(corrected for absence of forecastle (if required)) **59.67%**

Percentage from Table, Line B. **59.67%**

(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = $20.27 \times 59.67 = 12.08$

Sheers measured Afloat.

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	24.27	1		24.27	15	15	1		15.00
1/8 L from A.P. ...	10.80	4		43.20	22.37	22.37	4		89.48
1/4 L " ...	2.67	2		5.34	5.59	5.59	2		11.18
Amidships ...	-	4		-	0	0	4		-
3/4 L from F.P. ...	5.34	2		10.68	10.62	5.34	2		10.68
1/2 L " ...	21.60	4		86.40	21.60	21.60	4		86.40
F.P. ...	48.54	1		48.54	48.54	48.54	1		48.54
Total ...				218.43					169.62

Mean actual sheer aft = $\frac{15 \times 15}{15} = 15$

Mean standard sheer aft = $\frac{15 \times 15}{15} = 15$

Mean actual sheer forward = $\frac{22.37 \times 4 + 5.59 \times 2}{4 + 2} = 12.5$

Mean standard sheer forward = $\frac{22.37 \times 4 + 5.59 \times 2}{4 + 2} = 12.5$

Length of enclosed superstructure forward of amidships = $\frac{23.62}{142.7} = 0.166$

" " aft of " = $\frac{21.32}{142.7} = 0.15$

Standard mean sheer = $0.5L + 0.166 \times 12.14 = 0.5L + 2.01$

Correction = $\frac{\text{Difference between sums of products}}{18} \left(75 - \frac{S}{2L} \right) = \frac{(218.43 - 169.62)}{18} \left(75 - \frac{117.4}{2 \times 142.7} \right) = 9.1 + 8.8 = 17.9$

If limited on account of midship superstructure.

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 R.O.D. Deck = **14.53** Ft.

Summer freeboard = **3.02**

Moulded draught (d) = **11.51**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = **2.88**

Addition for Winter North Atlantic Freeboard (if required =

4.88 = 5

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 786$

Tons per inch immersion at summer load water line

$T = 6.95$

Deduction = $\frac{\Delta}{40T}$ inches

$\frac{786}{40 \times 6.95} = 2.82$

3" = 2 3/4

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$\frac{686 \times 68}{1.36} \times 14.55$

	+	-
Depth Correction ...	2.77	12.10
Deduction for superstructures ...		12.08
Sheer correction ...	91	
Round of Beam correction ...	88	01
Correction for Thickness of Deck amidships ...	30.00	
Other corrections, scantlings, etc. R. 6.8	33.65	12.11
	368	12.09

Summer Freeboard = **6.20 36.15**

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 " " ...

20 JUN 1932

RECEIVED 14 SEP 1932

RECEIVED 4 JUL 1932

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	No. 1, in Fore Well on Freebd. Dk.	No. 2, on R & D.	Cross Br. on Casing Top.						
Dimensions of Hatchway	21'0" x 14'6"	28'0" x 14'5"	13' x 9'6"						
COAMINGS Steel.	Height above Deck	29"	24"	13					
	Thickness	1/2"	1/2"	3/8"					
	Stiffeners	5 1/2 x 3 x 3/4	5 1/2 x 3 x 3/4	3/8"					
	Brackets, Stays	3 @ 1/2"	none	-					
HATCH BEAMS	Number	5	4-8	none					
	Spacing	5-3	4-8	none					
	Scantling and Sketch	14 x 32	as in	none					
	Bearing Surface	3"	3"						
FORE AND AFTERS	Number	none	none	none					
	Spacing	none	none	none					
	Unsupported Lengths	none	none	none					
	Scantling and Sketch	none	none	none					
HATCH COVERS	Material	W. Pine	W. Pine	W. Pine					
	Thickness	2 1/2"	2 1/2"	2 1/2"					
	How fitted	F & A	F & A	F & A					
	Bearing Surface	2"	2"	2 1/2"					
Spacing of Cleats	24"	24"	16 to 22"						
Number of Tarpaulins	2	2	2						

*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:— Funnel, Stokerhold and Engine Room Ventilator on Casing Top of Steel of substantial construction and in good condition.
 Engine Room. Skylight: Steel of strong construction with Steel hinged flaps having fixed circular hinges.
 Strong Steel hinged covers fitted to fiddle gratings.

Particulars of Flush Bunker Scuttles:—

None.

Particulars of Companionways:—

Deckhouse on Bridge Deck covering open stairway to intact Bridge of Steel plating 26. Stiffened by 3 x 3 x 32 L spaced 24" to 30" apart.
 Doors 4'4" x 1'7" Strong hinged wood. Sill 16".

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

On Fole Deck: 2 Vents 8" diam. Coamings 24" x 38" to Intact Fole & below Fole deck. 1-3" Coosenack 6" high to Intact Fole.
 " " 2 Slove funnels 3" diam. Coamings 8" x 36" funnels 6" high x 32" efficiently stayed.
 " Freebd " Fore Well. 1 Vent 12" diam. Coaming 36" x 40" to Hold.
 " Bridge " 3-11" diam. C.I. mushroom vent 6" high to Bridge.
 " R & " 1 Vent 12" diam Coaming 33" x 42" to Hold.

Wood plugs and covers to all vents. Coamings in good condition to Rule requirements.

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

on Fole deck: 1-3 1/2" C.I. quosenack 6" high to Fore peak and 2-3" C.I. quosenacks 12" high to Fore peak.
 on R & " 2-3" C.I. " 12" " to Hold., 1-3" C.I. quosenack 18" high to After Peak.

no closing appliances. fitted:— wood plugs attached by lanyards.
 Sniffling holes drilled in top of air pipes

Particulars of Gangway Cargo and Coaling Ports:—

None.

Particulars of Scuppers and Sanitary Discharge Pipes — From Below freeboard deck. None.

one Sanitary discharge from Fole. fitted with onboard trap. and Storm Valve at Ship's side

Particulars of Side Scuttles:—

From Fole. 8" diam. side lights in strong hinged brass frames with hinged dead lights.
 " Bridge 8" " " " " " " no dead lights.

Particulars of Guard Rails:—

On Fole Deck. 2. Rails in Stanchions 3'0" high spaced 4'0" to 5'6" apart.
 On Freebd " fore well: Steel Bulwark 4'0" high Stiffened by 6" Bulw plate stays spaced 5'3" except first stay 8'8" from Bridge front.
 on Bridge " Stanchions 3'3" high spaced 2'9" apart supporting 3/4" Wood cleading.
 " R & " Steel Bulwark 3'0" high Stiffened by 6" Bulw plate stays spaced 5'3" to 5'9" except first stay to 15'6" from Bridge End.

Particulars of Gangways, Lifelines, etc.:—

Steel wire lifelines, set up with tightening screws.
 fitted on each side of forward well.

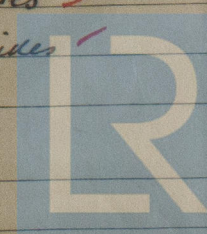
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well R & Deck	86.25	3'0"	3'0" x 75' 2'5" x 1'42"	3	17.40 16.65	14.25
Forward Well	24.5	4'0"	2'55" x 1'8"	2	9.2	9.0

State position of each freeing port ... After Well:— from midships. 1'6" forward, 25'4" aft. — 2 1/2" above deck edge.
 (F. and A. position and height above deck edge) Forward Well:— " " 29'8", 39'4" forward. — 4" above deck edge.
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—
 fitted with Balanced Steel Shutters having Steel pin rods in Steel hinges.
 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	28	26	3 x 3 x 28 L	24"	overlaps Bdy angle	none	—	4-0
Bridge, After Bulkhead	—	—	—	—	—	—	—	—
Bridge, Forward Bulkhead	30	28	5 x 3 x 36 L	24"	Bracketed	none	—	4-0.
Forecastle Bulkhead	28	24	3 x 3 x 32 L	50"	overlaps Bdy angle	4-5 x 1-7"	14"	6-9.
Trunk, Aft	—	—	—	—	—	—	—	—
Trunk, Forward	—	—	—	—	—	—	—	—
Exposed Machinery Casings on Freeboard or Raised Quarter Deck	30	26	3 x 3 x 36 L	29" to 36"	overlaps Bdy Angle & Bracketed at top.	4-6" x 2'0"	21"	4-0
Exposed Machinery Casings on Superstructure Decks	—	—	—	—	—	—	—	—
Machinery Casings within Superstructures 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).

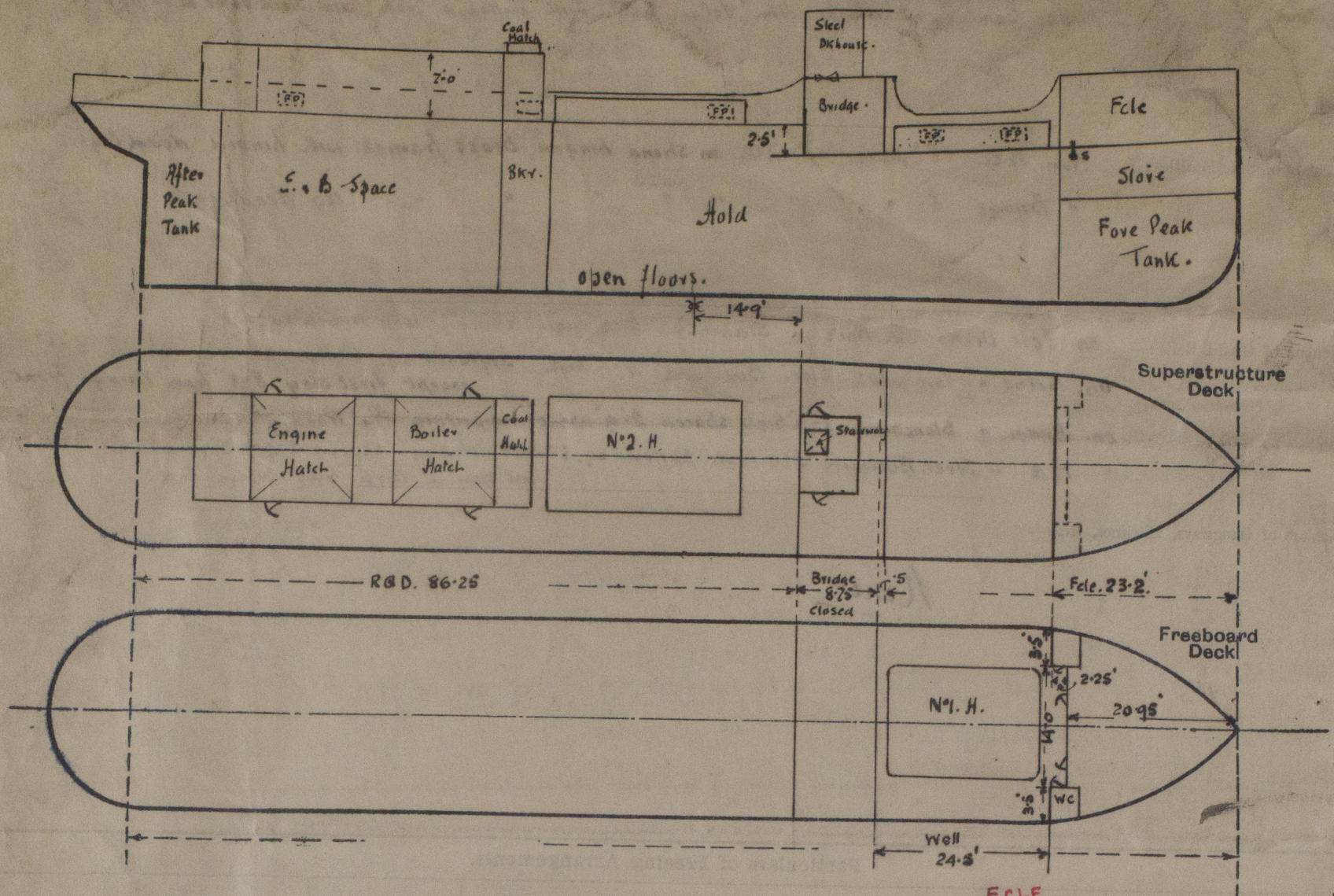
Poop Bulkhead	✓
Raised Quarter Deck Bulkhead	None
Bridge, After Bulkhead	None
Bridge, Forward Bulkhead	None
Forecastle Bulkhead	Strong hinged wood doors. opened from both sides
Exposed Machinery Casings on Freeboard or Raised Quarter Deck	Strong hinged Steel doors. opened from both sides
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships	



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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 shewn on the following sketches:—



$$\begin{aligned}
 & \text{FCLE} \\
 & 20.95 + \frac{3.42 \times 2.25}{10.42} \\
 & = 20.95 + .74 \\
 & 21.69 \\
 & \text{OVHNG} = 2.25 \times .74 = 1.51
 \end{aligned}$$

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

This survey has been held with the vessel afloat and confined to the parts detailed on this report.

Builder's name and yard number *J. Crichton & Co. L^d (Connah's Quay) Yard No. 288*

Names of sister ships

Owners *J. Fisher & Sons Ltd.*

Fee £ *5* : *2* : *-*

Received by me



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