

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. **20896**
(For London Office only.)

25 JUL 1932

10,903

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having, *Forecastle, Bridge & Raised Quarter decks*

(Type of Superstructures.)

Ship's Name **LOCH ETIVE** Nationality and Port of Registry *British Glasgow* Official Number *129484* Gross Tonnage *237* Date of Build *1910-4*

Moulded Dimensions: Length *122'* Breadth *21.5'* Depth *10.25'*
Moulded displacement at moulded draught = 85 per cent. of moulded depth **457** tons
Coefficient of fineness for use with Tables **700**

Port of Survey *Belfast*
Date of Survey *July 1932*
Name of Surveyor *J.D. Shilston*
Particulars of Classification *+100A1*
SS. Agr. No. 3-9, 22
SS. Bng. No. 2-30

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	10.25	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	21.5
Stringer plate	.03	(10.28 - 8.13) x .938 = +2.02		Standard Round of Beam = $\frac{B \times 12}{50}$	5.16
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$		(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	7
Depth for Freeboard (D) =	10.28	If restricted by superstructures		Difference	1.84
				Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right)$	$= \frac{1.84}{4} (1 - \frac{4.471}{10.28}) = .02$

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 ...	44.25	44.25	8.6		44.25
" overhang ...	8.17	8.17	8.7		8.17
Bridge enclosed ...	✓				
" overhang aft ...	✓				
" overhang forward ...	✓				
Fore enclosed ...	23.54	15.03	6.25		15.03
" overhang ...	✓				
Trunk aft ...	✓				
" forward ...	✓				
Tonnage opening aft ...	✓				
" " forward ...	✓				
Total ...	75.96	67.45			67.45

Standard Height of Superstructure **6.0**
" " R.Q.D. **3.15**
Deduction for complete superstructure **18.20**
Percentage covered $\frac{S}{L} = 62.26$
" " $\frac{S_1}{L} = 55.29$
" " $\frac{E}{L} = 55.29$
Percentage from Table, Line A. **39.41**
(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 = **7.17**

SHEER CORRECTION.

Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P. ...	22.20	1	22.20	24"	24.00	1	22.20
$\frac{1}{4}$ L from A.P. ...	9.88	4	39.52	10"	10.27	4	39.52
$\frac{2}{4}$ L " ...	2.44	2	4.88	3"	2.57	2	4.88
Amidships ...	✓	4	✓	✓	✓	4	✓
$\frac{3}{4}$ L from F.P. ...	4.88	2	9.76	4"	3.75	2	7.50
$\frac{1}{4}$ L " ...	19.76	4	79.04	15"	15.01	4	60.04
F.P. ...	34.40	1	34.40	34.2"	34.50	1	34.50
Total ...			199.80				168.64

Mean actual sheer aft = *Excess*
Mean standard sheer aftMean actual sheer forward = *Deficient*
Mean standard sheer forward

Length of enclosed superstructure forward of amidships =

" " aft of " =

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

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.
Addition for Winter and Winter North Atlantic Freeboard.Depth to Freeboard Deck =
Summer freeboard =
Moulded draught (d) =Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches =

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

=

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	2.02	
Deduction for superstructures		7.17
Sheer correction	76	
Round of Beam correction		.02
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc.		
	2.78	7.19

Summer Freeboard = **7.97**SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Water~~ 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 " " ...

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Description of Hatchway			Freeboard Deck	Bunker Hatch						
Dimensions of Hatchway			28' 3 1/2" x 12' 1"	11' 11" x 3' 6"						
COAMINGS	Height above Deck	...	37 1/2"	12 1/2" above casing top						
	Thickness	Sides	1 1/4"	25"						
		Ends	1 1/4"	25"						
	Stiffeners	...	✓	✓						
	Brackets, Stays	...	3 each side	✓						
HATCH BEAMS	Number	...	6	✓						
	Spacing	...	4' 9"							
	Scantling and Sketch	...	18" x 34" centre 12" x 30" ends angles 3" x 3" x 30"							
	Bearing Surface	...	2 1/2"							
		...								
FORE AND AFTERS	Number	...	✓	✓						
	Spacing	...								
	Unsupported Lengths	...								
	Scantling* and Sketch	...								
	Bearing Surface	...								
HATCH COVERS	Material	...	Apruo	1/4" hinged						
	Thickness	...	2 3/4"	steel covers						
	How fitted	...	fore aft	not secured						
	Bearing Surface	...	3"	by steel toggles						
Spacing of Cleats			28" to 25"	✓						
Number of Tarpaulins			3	none						
<p>*Are wood fore and afters steel shod at all bearing surfaces? ✓</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? Were lashings & stretching screws for cargo hatch ✓</p>										

Particulars of fiddle, funnel and ventilator coamings:—

Funnel coaming of steel, strong, rivetted to casing top. ✓
 Fiddle ventilators of steel, strong, coamings rivetted to casing top. ✓
 Fiddle openings protected by hinged steel covers. ✓
 Engine room skylight of wood, strong, bolted to casing top.

Particulars of Flush Bunker Scuttles:—

none

Particulars of Companionways:—

On freeboard deck below forecastle erection, leading to crew space, companion of steel, opening 52" x 21 1/2" (sill 11")
 closed by 1 1/2" solid ^{city} fine wood door. ~~locks to repair~~
 On bridge deck leading to bridge space, companion of teak wood, opening 22 1/2" x 22" (sill 8 1/2"), closed by 1 3/8"
 panelled 1/2" thick teak wood door, scarring from both sides. Sliding wood top 3/4" thick. ✓

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

On forecastle deck to crew space below freeboard deck, 1 coaming 6" dia x 12" high x 20". With steel trunk below forecastle deck.
 " " " " " companion, 1 coaming 5" dia x 12" high x 20". With wood plug.
 " freeboard " " hold, 1 coaming 9" dia x 24" high x 25" thick. With wood plug.
 " bridge " " " 9" " x 12" " x 25" ✓
 " " " bridge space, 1 " 6" " x 12" " x 20" ✓
 * ~~No closing appliances~~ wood plugs & canvas covers provided.

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

On freeboard deck below forecastle erection to forepeak tank 1 air pipe 2 1/2" dia x 6 1/2" high.
 " raised quarter " to after peak 1 air pipe 2" dia x 9" high.
~~no closing appliances~~ Canvas covers provided.

Particulars of Gangway Cargo and Coaling Ports:—

none



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Particulars of Scuppers and Sanitary Discharge Pipes:— *None*

Particulars of Side Scuttles:—

Particulars of Side Scuttles:—
In fore-castle, scuttles efficient & fitted with deadlights. ✓

Particulars of Guard Rails :—

Particulars of Guard Rails:—

✓ On forecastle deck,	guard rails 36" high,	2 rows,	efficient
✓ " freeboard "	bulwarks of steel,	45" high,	efficient
✓ " Bridge "	" " "	36" "	"
✓ " raised quarter "	" " "	34" "	"

Particulars of Gangways, Lifelines, etc. :—

"An efficient gangway is provided from the bridge to the crew's quarters forward by the top of the cargo hatch to which there is easy access from the bridge ladder.

~~No lifelines nor provision for same are fitted.~~

A lifeline capable of being rigged either side fitted in fore 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
Raised Quarter Deck After Well	44'-3"	34"	$\left\{ \begin{array}{l} 32" \times 18" \\ 30" \times 15" \end{array} \right.$	$\left\{ \begin{array}{l} 2 \\ 1 \end{array} \right.$	$\begin{array}{l} 11.125 \\ 3.125 \end{array}$	10.925
Forward Well	47'-0"	45"	$30\frac{1}{4}" \times 17"$	3	10.7	$\frac{11.2}{10.7}$

State position of each freeing port
(F. and A. position and height above deck edge) } *Raised Quarter Deck.*
 } After Well:— $\frac{11}{10}$ } *see sketch.*
 } Forward Well:—

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— *shutters on steel swivels.*

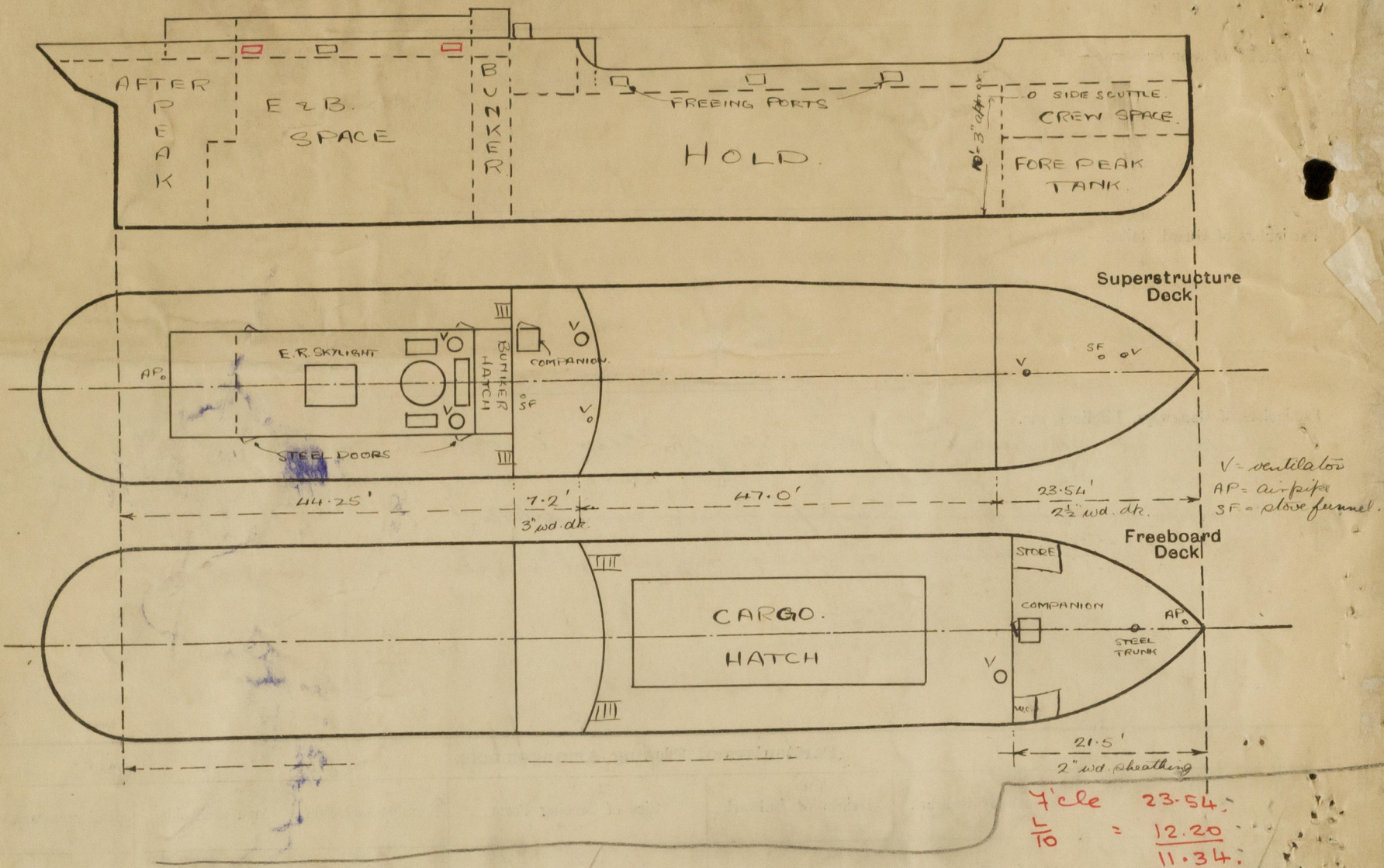
Additional area where sheer is less than standard.

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 ...	✓	.31"	4" x 2 ³ / ₄ " x .37" B.A.	30"	Bracketed at wings. Passing above deck at centre.	✓	✓	✓
Bridge, After Bulkhead	✓	.31"	4" x 2 ³ / ₄ " x .37" B.A.	30"	nil.	✓	✓	✓
Bridge, Forward Bulkhead37"	.25"	5" x 2 ¹ / ₂ " x .40" B.A.	23 ¹ / ₂ " to 29 ¹ / ₂ "	Bracketed top & bottom.	✓	✓	✓
Forecastle Bulkhead	✓							
Trunk, Aft	✓							
Trunk, Forward	✓							
Exposed Machinery Casings on Free-board or Raised Quarter Decks31"	.31"	2 ¹ / ₂ " x 2 ¹ / ₂ " x .25"	28"	Bracketed top only.	40" x 22 ¹ / ₂ " x 53"	18"	6'-7"
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 ...	✓
Bridge, After Bulkhead	✓
Bridge, Forward Bulkhead	✓
Forecastle Bulkhead	✓
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	11- 1/2" linged steel doors, securing <i>both sides</i> ✓
Exposed Machinery Casings on Superstructure Decks	✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓
Deckhouses on Flush Deck Ships ...	✓

Lock Case.

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:—



A docking survey is also being held on this vessel.

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

$$\frac{7 \text{ cle}}{10} = \frac{23.54}{11.34}$$
$$\frac{1}{2}(11.34) + 12.20 = 7.67$$
$$= 5.67 + 9.36 = 15.03$$

OMIT

Builder's name and yard number *Scott & Sons. Bowling.*

Names of sister ships

Owners *British Aluminium Co. Ltd.*

Fee £ *3* : *8* : *0*

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