

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having POOP, R.Q.D., BRIDGE & FORECASTLE.Port of Survey Newcastle.

(Type of Superstructures.)

Date of Survey 30th Nov. & 7th Dec. 1936.

Ship's Name

Nationality and Port of Registry

Official Number

Gross Tonnage

Date of Build

'LESTO'BRITISH.140710.1893.1918-A

Name of Surveyor

J. MacleanMoulded Dimensions: Length 267.75 ✓ Breadth 37.66 ✓ Depth 19.75 ✓Moulded displacement at moulded draught = 85 per cent. of moulded depth 3768 @ 16.78 tonsCoefficient of fineness for use with Tables .779.Particulars of Classification +100 A1.After Nov 26-26

Depth for Freeboard (D)				Depth correction		Round of Beam correction	
Moulded depth	...	...	19.75	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	= 37.66
Stringer plate	...54"	...	04.	(19.79 - 17.85) 2.00 = + 4.00"		Standard Round of Beam = $\frac{B \times 12}{50}$	= 9.04
Sheathing on exposed deck			✓	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	✓	Ship's Round of Beam	= 9.50"
$T \left(\frac{L-S}{L} \right) =$			✓			Difference	<u>express</u> = .46"
Depth for Freeboard (D) =			19.79.	If restricted by superstructures	✓	Restricted to	
						Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right)$	= $\frac{.46^2}{4} \times .3046 = -.04"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	24.08 ✓	24.08	7'-0"	✓	24.08
" overhang ...	-	-	-	-	-
R.Q.D. enclosed ...	82.25 ✓	82.25	3'-9"	3.75 / 4.24	72.74 ✓
" overhang ...	-	-	-	-	-
Bridge enclosed ...	50.90 ✓	50.90	7'-0"	✓	50.90
" overhang aft ...	-	-	-	-	-
" overhang forward	28.43	28.43	7'-0"	✓	28.43
Fore enclosed ...	29.5	53	-	-	53
" overhang ...	1.04	-	-	-	-
Trunk aft ...	-	-	-	-	-
" forward ...	-	-	-	-	-
Tonnage opening aft ...	-	-	-	-	-
" " forward	-	-	-	-	-
Total ...	186.73	186.19	-	-	176.68

Standard Height of Superstructure 6.18 ✓" " R.Q.D. 4.24 ✓Deduction for complete superstructure 32.77 ✓Percentage covered $\frac{S}{L} = 69.74$ ✓" $\frac{S_1}{L} = 69.54$ ✓" $\frac{E}{L} = 65.99$ ✓Percentage from Table, Line A. 56.18 ✓

(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 = $32.77 \times .5618 = - 18.41$ ✓

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	36.77	1	36.77	42.00	42.00	1	42.00
$\frac{1}{4}$ L from A.P. ...	16.37	4	65.48	19.75	19.75	4	79.00
$\frac{3}{8}$ L " ...	4.05	2	8.10	4.92	4.92	2	9.84
Amidships ...	-	4	-	-	-	4	-
$\frac{3}{8}$ L from F.P. ...	8.09	2	16.18	9.16	9.16	2	18.32
$\frac{1}{4}$ L " ...	32.73	4	130.92	36.73	36.73	4	146.92
F.P. ...	73.55	1	73.55	84.00	84.00	1	84.00
Total ...			331.00				380.08

Mean actual sheer aft = Express.Mean actual sheer forward = Express.Length of enclosed superstructure forward of amidships = $\frac{23.36}{267.75} = .0872$ L." " aft of " = > .1L.Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{49.08}{18} (.75 - .3487) = - 1.09"$ If limited on account of midship superstructure. $\frac{.187}{.200} \times 1.09 = - 1.02"$ ✓ 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.

Ft.
Depth to Freeboard Deck = 19.49
Summer freeboard = 1.92
Moulded draught (d) = 17.87

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = $4.47 = 4\frac{1}{2}"$ Addition for Winter North Atlantic Freeboard (if required) = $4\frac{1}{2} + 2 = 6\frac{1}{2}"$

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 4058$

Tons per inch immersion at summer load water line

T = 20.75

Deduction = $\frac{\Delta}{40 T}$ inches= $4.88 = 5"$

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient $\frac{.779 + .68}{1.36} = \frac{1.459}{1.36}$

Depth Correction ... 4.00
Deduction for superstructures ... 18.41
Sheer correction ... 1.02
Round of Beam correction04
Correction for Thickness of Deck amidships ...
Other corrections, scantlings, etc. ...

+	-
4.00	18.41
-	1.02
-	.04
-	-
-	-
4.00	19.47

Summer Freeboard = 23.17

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

Existing freeboards reassigned
being more favourable than
those computed under the
convention.

Tropical Fresh Water Line above Centre of Disc	... 9 1/2
Fresh Water Line	... 5
Tropical Line	... 4 1/2
Winter Line below	... 4 1/2
Winter North Atlantic Line	... 6 1/2

Tropical Fresh Water Freeboard	... 1-1/2
Fresh Water	... 1-6
Tropical	... 1-6 1/2
Winter	... 2-3/2
Winter North Atlantic	... 2-5/2

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS.									
		FREEBOARD DECK.				R.Q. DECK.		FB DECK.	
Description of Hatchway		1	2	3	4			BUNKER HATCH	
Dimensions of Hatchway		29' 1/2" x 23' 6" MEAN.	27' x 25'	29' 1/2" x 24' 3"	27' 5" x 22' 3" MEAN.			4' 7 1/2" x 25'	
COAMINGS	Height above Deck	48" ✓	48" ✓	42" ✓	42" ✓	{ AT SIDES, E ENDS CLEAR OF WINCH DECKS.			
	Thickness { Sides	.50 ✓	.50 ✓	.44 ✓	.44 ✓				
	{ Ends	.40 ✓	.40 ✓	.40 ✓	.40 ✓				
	Stiffeners	7" B.A. ✓	7" B.A. ✓	7" B.A. ✓	7" B.A. ✓				
	Brackets, Stays	BUT PLATE						7" B.A. ✓	
HATCH BEAMS	Number	4	4	4	4				
	Spacing	5'-11" ✓	5'-5" ✓	5'-11 1/2" ✓	5'-6" ✓				
	Scantling and Sketch	4 x 3 x .44	5 x 3 x .44	5 x 3 x .44	4 x 3 x .44				
	Bearing Surface	33/28 1/2" x .40	33/28 1/2" x .40	33/30 1/2" x .40	33/28 1/2" x .40				
FORE AND AFTERS	Number	6 1/2 x 3 x .44 B.A.	6 1/2 x 3 x .44 B.A.	6 1/2 x 3 x .44 B.A.	6 1/2 x 3 x .44 B.A.				
	Spacing	4" ✓	5" ✓	5" ✓	4" ✓				
	Unsupported Lengths								
	Scantling* and Sketch								
	Bearing Surface								
HATCH COVERS	Material	WP.	WP.	WP.	WP.			WP.	
	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		24" ✓	24" ✓	24" ✓	24" ✓			24" ✓	
Number of Tarpaulins		2	2	2	2			2	
<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? Fittings but no lashings. <i>Special lashings provided on all main hatchways.</i></p>									

Particulars of Hddley, funnel and ventilator coamings:—

- Hddley openings fitted with steel gratings & steel hinged covers. ✓
- Engine Room skylight of steel with steel hinged flats. ✓
- Hddley, funnel, & ventilator coamings in efficient condition ✓

Particulars of Flush Bunker Scuttles:—

NONE. ✓

Particulars of Companionways:—

- One on Poop, steel construction with steel door 3'-6" x 24", sill 12" above wood decks. ✓
- Two on Bridge Deck, steel construction with 1 1/2" wood doors 3'-9" x 24", sill 12" above wood decks. ✓

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

- Pooh Deck. 5 M.V. 6" x 8" high to accums. ✓ 1 S.N.V. 5" x 9" high to accums. ✓
 - R.Q.D. 2 @ 3'-6" x 12" x .25 to holds. ✓ 1 @ 3'-6" x 6" x .25 to tunnel. ✓
 - Bridge Deck. 5 @ 2'-0" x 6" x .25 to accums. ✓ 1 S.N.V. 5" x 9" to accums. ✓ 2 @ 2'-0" x 8" x .25 to bridge ladders. ✓
 - Forward Well. 1 @ 4'-3" x 12" x .25 to hold. (not authorized). ✓
 - Forecastle Deck. 1 @ 2'-0" x 12" x .25 to hold ✓ 2 @ 1'-6" x 6" x .25 to accums. ✓ 2 @ 1'-6" x 8" x .25 to accums. ✓ 1 S.N.V. 5" x 7" to heak store. ✓
- all coamings fitted with wood plugs & canvas covers ✓

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

- Pooh Deck. 1 S.N.V. 5" DIA. x 9" to aft peak. ✓
 - R.Q.D. 2 S.N.V. 1 1/2" DIA. x 2'-9" to D. Bottom. ✓
 - Bridge Deck. 2 S.N.V. 1 1/2" DIA. x 2'-6" to D. Bottom. ✓ 2 S.N.V. 5" DIA. x 9" to deck tanks. ✓
 - Forward Well. 2 S.N.V. 1 1/2" DIA. x 3'-0" to D. Bottom. ✓
 - Forecastle Deck. 1 S.N.V. 4" DIA. x 6" to Fore Peak, 1 flush 1 1/2" screw cap. to D. Bottom. ✓
- all air pipes fitted with wood plugs ✓

Particulars of Gangway Cargo and Coaling Ports:—

NONE. ✓



© 2020

Lloyd's Register Foundation

Des to

Particulars of Scuppers and Sanitary Discharge Pipes:—

All sanitary discharges led to storm valves on ship's side, above freeboard decks. ✓

3 Scuppers through stinger angle P. & S. in forward well. ✓

3 Scuppers through stinger angle P. & S. on R.Q.D. ✓

Particulars of Side Scuttles:—

All side scuttles of substantial construction = fitted with hinged deadlights. ✓

Particulars of Guard Rails:—

Forecastle. 3'-6" high, spaced 5'-0" apart, 2 chains at sides, 2 rails at end. ✓

Bridge. 3'-6" bulwark at sides & fore end, with B. plate stays, 2 rails at aft end. ✓

Poop. 3'-6" high, spaced 5'-0" apart, with 2 rails. ✓

Particulars of Gangways, Lifelines, etc.:—

Stanchions = lifeline fitted in forward well, with gangway clear of hatchways.

No lifelines fitted on R.Q.D. ✓

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.Q.D. ...	82'-3" ✓	3'-9"	2'-9" x 1'-6"	4	16 sq. ✓	16.45 sq. ✓
Forward Well ...	81'-0" ✓	4'-0"	3'-0" x 1'-8½"	4	19.5 sq. ✓	16.2 sq. ✓

State position of each freeing port ... } *R.Q.D. Poop. 13'-9" --- 17'-6" --- 19'-7" --- 17'-2" --- 14'-3" --- 11'-0" 9" silh.*
(F. and A. position and height above deck edge) } *Forward Well: 14'-0" --- 15'-4" --- 19'-3" --- 17'-9" --- 14'-8" --- 11'-0" 12" silh.*

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—
Hinged doors on all ports except aft port in fore well which has 3 rods. ✓

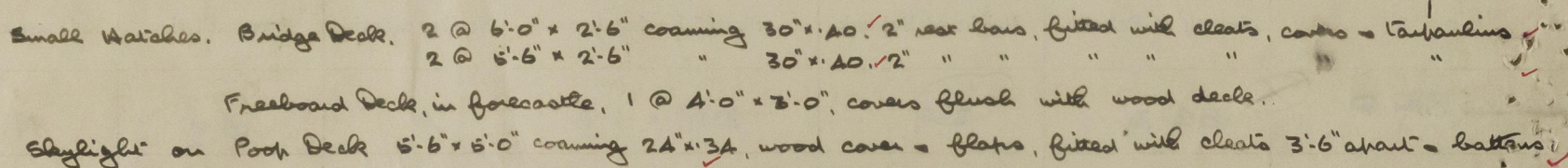
Additional area where sheer is less than standard.

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 ...	.3A ✓	.3A ✓	5½ x 3 x 36 A. ✓	30" ✓	-	-	-	7'-0"
Raised Quarter Deck Bulkhead ...	-	-	-	-	-	-	-	-
Bridge, After Bulkhead ...	.36 ✓	.36 ✓	5½ x 3 x 38 A. ✓	32" ✓	-	-	-	7'-0"
Bridge, Forward Bulkhead ...	.38 ✓	.3A ✓	7 x 3 x 52 B.A. ✓	30" ✓	<i>Tot. Bkls.</i>	-	-	7'-0"
Forecastle Bulkhead ...	.3A ✓	.3A ✓	3½ x 3½ x 40 ✓	42" ✓	-	1 @ 5'-2" x 28" ✓ 2 @ 4'-6" x 24" ✓	15" ✓ 15" ✓	7'-0"
Trunk, Aft ...	-	-	-	-	-	-	-	-
Trunk, Forward ...	-	-	-	-	-	-	-	-
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	-	-	-	-	-	-	-	-
Exposed Machinery Casings on Superstructure Decks ...	.40 ✓	.30 ✓	3 x 3 x 3A ✓	48" ✓	<i>Tot. Bkls.</i>	2 @ 4'-6" x 24" ✓	20" ✓	7'-0"
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 ...	✓ <i>No opening</i>
Raised Quarter Deck Bulkhead ...	✓ " "
Bridge, After Bulkhead ...	✓ " "
Bridge, Forward Bulkhead ...	✓ " "
Forecastle Bulkhead ...	<i>1 wood door 1½" hardwood, operated from both sides. ✓</i>
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	<i>2 steel hinged doors, operated from both sides. ✓</i>
Exposed Machinery Casings on Superstructure Decks ...	✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	<i>2 steel hinged doors, operated from both sides. ✓</i>
Deckhouses on Flush Deck Ships ...	✓



no timber assignment required.

$$\frac{5.0 \times 3.58 \times 2}{33.42} = 1.04 \text{ overhang.}$$

$$\frac{28.43}{29.50} \text{ enclosed}$$

$$\text{total}$$

This vessel is now completing S.S. no. 3.

Received by me.