

-1 DEC 1932

Index No. 23225  
(For London Office only.)

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

13 Upper River Swift

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Bridge Houses on Awning Deck Port of Survey Falmouth

(Type of Superstructures.)

Date of Survey 28/11/32 29/11/32 30/11/32

Ship's Name "LAUTARO" Nationality and Port of Official Number British London 187487 Gross Tonnage 6240 Date of Build 1915-12

Name of Surveyor Redditt & A. Sculthard

Moulded Dimensions: Length 399.1 Breadth 52 Depth 29.8 M. Dk. 37.8 Awning Dk.

Moulded displacement at moulded draught = 85 per cent. of moulded depth 15085 tons

Coefficient of fineness for use with Tables .795

Particulars of Classification +100 A1  
Awning Dk with freeboard  
S.S. Hul. No 3-4-28

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	37.67	(a) Where D is greater than Table depth (D-Table depth) R =		Moulded Breadth (B)	52.0
Stringer plate	<del>0.62</del> .04	(37.71 - 26.61) 3 = + 33.30		Standard Round of Beam = $\frac{B \times 12}{50}$	12.48
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	12.
Depth for Freeboard (D) =	37.71	If restricted by superstructures		Difference	48
				Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right)$	$\frac{48}{4} \times .7969 = +10$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed						Standard Height of Superstructure <u>7.491</u>
" overhang						" " R.Q.D. <u>✓</u>
Bridge enclosed (aft)	<u>71.25</u>	<u>53.44</u>	<u>7.9"</u>	<u>✓</u>	<u>53.44</u>	Deduction for complete superstructure <u>41.94</u>
Bridge overhang	<u>69.4</u>					Percentage covered $\frac{S}{L} = 27.08\%$
Bridge enclosed (ford)	<u>36.10</u>	<u>27.62</u>	<u>7.9"</u>	<u>✓</u>	<u>27.62</u>	" " $\frac{S_1}{L} = 20.31\%$
" overhang aft	<u>2.6</u>					" " $\frac{E}{L} = 20.31\%$
" overhang forward						Percentage from Table, Line A. <u>✓</u>
Deck enclosed			<u>8.0"</u>			(corrected for absence of forecastle (if required)) <u>✓</u>
" overhang						Percentage from Table, Line B. <u>12.90%</u>
Trunk aft						(corrected for absence of forecastle (if required)) <u>-5% = 7.90%</u>
" forward						Interpolation for bridge less than 2L (if required)
Tonnage opening aft						Deduction = <u>41.94</u> x <u>.079</u> = <u>-3.31</u>
" forward						
Total	<u>108.08</u>	<u>81.06</u>			<u>81.06</u>	

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	49.91	1	49.91	39.0	39.00	39.00	1	39.00	39.00	Mean actual sheer aft = <u>Def</u>
$\frac{1}{8}L$ from A.P.	22.21	4	88.84	9.0	11.00	11.00	4	44.00	44.00	Mean actual sheer forward = <u>Def</u>
$\frac{2}{8}L$ "	5.49	2	10.98	3.0	-5.0	-5.0	2	-1.00	-1.00	Length of enclosed superstructure forward of amidships = <u>Def</u>
Amidships		4					4			" " aft of " = <u>8.0</u>
$\frac{3}{8}L$ from F.P.	10.98	2	21.96	13.0	13.30	13.30	2	26.60	26.60	
$\frac{4}{8}L$ "	44.42	4	177.68	45.0	40.40	40.40	4	161.60	161.60	
F.P.	99.82	1	99.82	85.0	85.00	85.00	1	85.00	85.00	
Total			449.19					355.20	355.20	

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{93.99}{18} \times (.75 - .1354) = +2.69$

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.		Deduction for Fresh Water.		TABULAR FREEBOARD corrected for Flush Deck (if required)	
Addition for Winter and Winter North Atlantic Freeboard.		Displacement in salt water at summer load water line		Correction for coefficient	<u>1.475</u>
Depth to Freeboard Deck =	Ft.	$\Delta =$			<u>1.36</u>
Summer freeboard =		Tons per inch immersion at summer load water line		Depth Correction	33.30
Moulded draught (d) =		T =		Deduction for superstructures	3.31
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches =		Deduction = $\frac{\Delta}{40T}$ inches =		Sheer correction	2.69
Addition for Winter North Atlantic Freeboard (if required) =				Round of Beam correction	.10
				Correction for Thickness of Deck amidships	
				Other corrections, scantlings, etc.	10.23
				Summer Freeboard =	120.25

## SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck: - 10' - 0 1/4"

Tropical Fresh Water Line above Centre of Disc		Tropical Fresh Water Freeboard	
Fresh Water Line		Fresh Water	
Tropical Line		Tropical	
Winter Line below		Winter	
Winter North Atlantic Line		Winter North Atlantic	



© 2020

Lloyd's Register Foundation



# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	No 1	No 2	No 3	No 4	No 5	No 6	Forepeak		
Dimensions of Hatchway	19'6" x 14'0"	28'2" x 16'0"	21'8" x 16'0"	17'4" x 16'0"	19'6" x 16'0"	19'6" x 16'0"	4'0" x 3'0"		
COAMINGS									
Height above Deck	30"	30"	30"	30"	30"	30"	5"		
Thickness Sides	.45"	.55"	.5"	.45"	.5"	.5"	3/8" OA		
Thickness Ends	.50"	.55"	.5"	.5"	.5"	.5"			
Stiffeners	✓	6"x3" BA	✓	6"x3" BA	6"x3" BA	6"x3" BA			
Brackets, Stays									
HATCH BEAMS									
Number	2	3	2	1	2	2			
Spacing									
Scantling and Sketch	2 1/2" x 40 angles 3 x 3 x 40 12"x6"	2 1/2" x 40 14"x6"	2 1/2" x 40 14"x6"	2 1/2" x 40 14"x6"	2 1/2" x 40 14"x6"	2 1/2" x 40 14"x6"			
Bearing Surface	3"								
FORE AND AFTERS									
Number									
Spacing									
Unsupported Lengths									
Scantling and Sketch									
Bearing Surface									
HATCH COVERS									
Material	1	wood					Steel		
Thickness	3"	3"					3/8"		
How fitted	1	F & A					Hinged		
Bearing Surface	1	3"					Bolts & wing nuts		
Spacing of Cleats	1	22" x 24"							
Number of Tarpaulins	1	3							
<p>*Are wood fore and afters steel shod at all bearing surfaces? <i>yes</i></p> <p>Are battens and wedges efficient and in good condition? <i>yes</i></p> <p>Are tarpaulins in good condition and in accordance with rule requirements? <i>yes</i></p> <p>Are lashings provided in accordance with rule requirements? <i>yes</i></p>									

Particulars of fiddle, funnel and ventilator coamings:— *No stokehold gratings.*  
*Engine Room Sky light Steel. Funnel & ventilator coamings efficient.*

Particulars of Flush Bunker Scuttles:— *none.*

Particulars of Companionways:— *To Windlass Control Room Fole. Steel hinged w.t. door 13" sill Manipulated both sides*  
*Engine Room. Steel hinged doors in halves. 18" sill manipulated both sides*  
*Funnel Escape. Steel hinged door 18" sill manipulated both sides.*  
*after Stores Steel hinged w.t. door 13" sill*

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—  
*Fole. 3. C.I. 7'x4" x 24" high covered canvas. aft Dk. 2. 12" dia 36" high 3/8" thick covered plugs & canvas.*  
*1 12" dia 24" high 3/8" thick " plug & "*  
*6 18" " 36" " 3/8" " " " "*  
*F. Dk. 4 18" " 36" " 3/8" " " " "*  
*Midships 1 18" " 10'0" " stayed to bulkhead.*  
*wood plugs fitted*

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—  
*Forepeak. 3 1/2" dia 32" high*  
*Fore Dk 4 @ 1 1/2" dia 32" high*  
*Midships 4 @ 4" " 36" "*  
*1 @ 4" " 25" "*  
*2 @ 2" " 25" "*  
*aft Dk. 6 @ 4" x 25" high*  
*6 @ 1 1/2" x 27" "*  
*aft Peak. 3 1/2" x 33" "*  
*wood plugs*  
*Covers not provided for*  
*all air pipes*

Particulars of Gangway Cargo and Coaling Ports:— *none.*

LAUTAKO  
 Deck Scuppers *For Dk. 3 P+S through bar / 1 P+S. through deck.*  
*Midships 2 P+S " " deck*  
*aft 1 P+S " " 4 P+S " " bar*  
 Particulars of Scuppers and Sanitary Discharge Pipes:  
*1 P+S. drain from Windlass control room. Storm valve fitted*  
*2 P+S. For Bridge House, above M. Deck. " " "*  
*6 P+S aft " " " " " "*  
*2 P aft. Storm valves fitted*  
*1 P+S " drain from Steering house " " "*  
 Particulars of Side Scuttles:—  
*1 P+S. Fole Stores. Deadlights fitted*

Particulars of Guard Rails:— *Side Rails. 1/4 Rails & Stanchions 3'6" high 4 ft apart*

Particulars of Gangways, Lifelines, etc.:— *none.*  
*Portable provision now made for rigging lifelines*  
*which are now available for use of the crew*  
*on any part of the ship which might have*  
*to be used in the regular working.*

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						
<p>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.</p>						

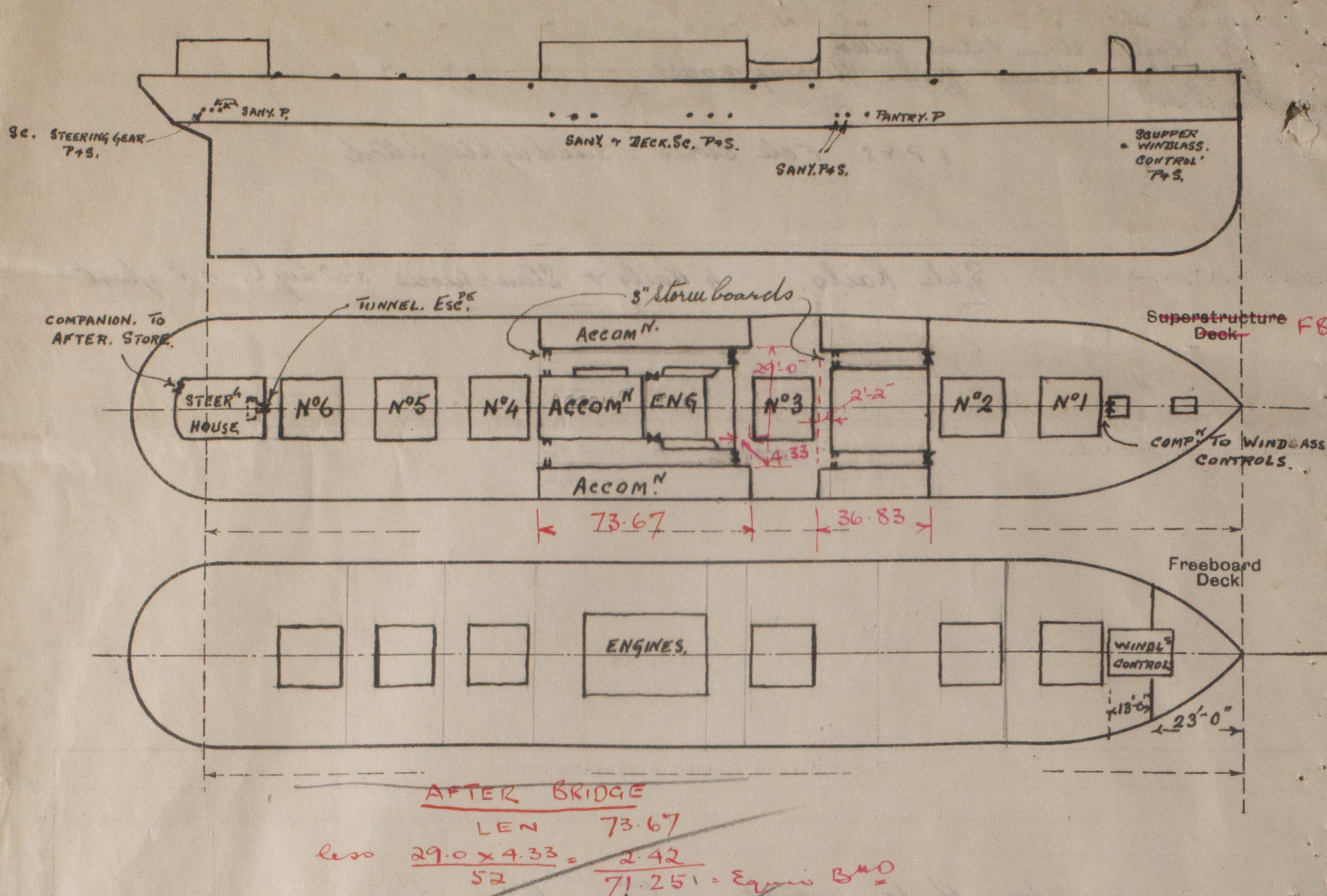
Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	✓							
Raised Quarter Deck Bulkhead	✓							
Bridge, After Bulkhead		5/16"	3" x 2 1/2" x 5/16"	27"	none	none	✓	7'9"
Bridge, Forward Bulkhead		3/8"	not accessible	26"	Rpts 1 P+S	6'4" x 2'9"	19"	7'9"
Forecastle Bulkhead		1/4"	8 1/2" x 3" x 3/16"	31"	none	none	✓	8'0"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks								
Exposed Machinery Casings on Superstructure Decks		1/4"	3 x 2 1/2" x 5/16"	26"	none	6'3" x 2'6"	18"	7'9"
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 ... *3" storm boards 5'0" high to passages. 1 P+S.*  
 Bridge, Forward Bulkhead ... *Steel doors hinged to passages manipulated both sides*  
 Forecastle Bulkhead ...  
 Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...  
 Exposed Machinery Casings on Superstructure Decks ...  
 Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...  
 Deckhouses on Flush Deck Ships ...  
*Steel doors in halves manipulated both sides*



*Lautaro*

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:—

*Vessel Surveyed in Dry Dock. for Lud SS N°1.*

Builder's name and yard number

Names of sister ships

*This report refers to the Twin Sc. M.V. "Lautaro"*  
*Pacific Steam Nav. Co.*

Owners

Fee £ 14 : 9 : 0

Received by me

*[Signature]*



© 2020

Lloyd's Register Foundation