

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index No. 248
(For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Prop, Bridge, & Forecastle

Port of Survey NANTES

Date of Survey 27th & 28th December 1932

Name of Surveyor R. J. Partridge

Particulars of Classification +100.A.1.
S.S. No 16.3-4-32

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
"GRANDLIEU"	French Nantes	-	3290.	1919. 2 mo

Moulded Dimensions: Length 325'0" Breadth 45'0" Depth 26'0 1/4"
Moulded displacement at moulded draught = 85 per cent. of moulded depth 7043 tons
Coefficient of fineness for use with Tables 766

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>26'0 1/4"</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>26.04 - 21.67 = 4.37</u> <u>4.37 x 2.50 = 10.92</u>	Moulded Breadth (B) <u>45.0</u> Standard Round of Beam = $\frac{B \times 12}{50} = 10.8$ Ship's Round of Beam = <u>11 1/2</u> Difference = <u>7</u>
Stringer plate <u>04</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Difference
Sheathing on exposed deck <u>none</u> $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Restricted to
Depth for Freeboard (D) = <u>26.04</u>		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{7}{4} \times \left(1 - \frac{5.316}{45} \right) = 1.09$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	<u>32.75</u>	<u>32.75</u>	<u>7'-9"</u>		<u>32.75</u>	Standard Height of Superstructure <u>6.75</u>
" overhang						" " R.Q.D.
R.Q.D. enclosed						Deduction for complete superstructure <u>37.00</u>
" overhang						Percentage covered $\frac{S}{L} = 47.23$
Bridge enclosed	<u>90.00</u>	<u>90.00</u>	<u>7'-9"</u>		<u>90.00</u>	" " $\frac{S_1}{L} = 46.84$
" overhang aft						" " $\frac{E}{L} = 46.84$
" overhang forward	<u>2.50</u>	<u>1.25</u>			<u>1.25</u>	Percentage from Table, Line A.
F'cle enclosed	<u>28.25</u>	<u>28.25</u>	<u>7'-9"</u>		<u>28.25</u>	(corrected for absence of forecastle (if required))
" overhang						Percentage from Table, Line B. <u>33.31</u>
Trunk aft						(corrected for absence of forecastle (if required))
" forward						Interpolation for bridge less than 2L (if required)
Tonnage opening aft						Deduction = <u>12.32</u>
" " forward	<u>153.50</u>	<u>152.25</u>				
Total	<u>151.00</u>	<u>151.00</u>			<u>152.25</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	<u>42.5</u>	1		<u>42.5</u>	<u>46.0</u>	<u>46.00</u>	1		<u>46.00</u>	Mean actual sheer aft = <u>Excess</u> Mean standard sheer aft
1/4 L from A.P.	<u>18.91</u>	4		<u>75.64</u>	<u>19.35</u>	<u>19.75</u>	4		<u>79.00</u>	Mean actual sheer forward = <u>Excess</u> Mean standard sheer forward
1/2 L "	<u>4.67</u>	2		<u>9.34</u>	<u>4.3</u>	<u>4.94</u>	2		<u>9.88</u>	
Amidships		4					4			Length of enclosed superstructure forward of amidships = <u>7.1L</u>
3/4 L from F.P.	<u>9.35</u>	2		<u>18.7</u>	<u>10.07</u>	<u>10.07</u>	2		<u>20.14</u>	" " aft of " = <u>7.1L</u>
1/4 L "	<u>37.82</u>	4		<u>151.28</u>	<u>40.8</u>	<u>40.29</u>	4		<u>161.16</u>	
F.P.	<u>85.00</u>	1		<u>85.00</u>	<u>94.0</u>	<u>94.00</u>	1		<u>94.00</u>	
Total				<u>382.47</u>					<u>410.18</u>	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(75 - \frac{S}{2L} \right) = \frac{27.71}{18} \left(75 - \frac{236}{539} \right) = 79$
If limited on account of midship superstructure.

If limited to maximum allowance of 1 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
Depth to Freeboard Deck = <u>26.04</u>	$\Delta =$	Depth Correction <u>10.92</u>
Summer freeboard = <u>4.21</u>	Tons per inch immersion at summer load water line	Deduction for superstructures <u>12.32</u>
Moulded draught (d) = <u>21.83</u>	T =	Sheer correction <u>79</u>
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>5.46</u> = <u>5 1/2</u>	Deduction = $\frac{\Delta}{40T}$ inches	Round of Beam correction <u>09</u>
Addition for Winter North Atlantic Freeboard (if required) =		Correction for Thickness of Deck amidships
		Other corrections, scantlings, etc.
		10.92 13.20 <u>2.28</u>
		Summer Freeboard = <u>50.56</u>

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:- 4-2 1/2

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 " "

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
Dimensions of Hatchway	24'-0" x 16'-0"	24'-0" x 16'-0"	10'-0" x 16'-0"	24'-0" x 16'-0"	24'-0" x 16'-0"
COAMINGS					
Height above Deck	2' 4"	2' 4"	1' 8"	2' 4"	2' 4"
Thickness Sides	4 1/2"	4 1/2"	4 1/2"	4 1/2"	4 1/2"
Stiffeners Ends	Channel	Channel	none	Channel	Channel
Brackets	Brackets	Brackets	none	Brackets	Brackets
HATCH BEAMS					
Number	4	4	1	4	4
Spacing	4'-9"	4'-9"	3'-0"	4'-9"	4'-9"
Scantling and Sketch	Steel 14" x 34"	Steel 14" x 34"	Steel 14" x 34"	Steel 14" x 34"	Steel 14" x 34"
Bearing Surface	L 5 3/2 x 3 x 4 1/2	L 5 3/2 x 3 x 4 1/2	L 5 3/2 x 3 x 4 1/2	L 5 3/2 x 3 x 4 1/2	L 5 3/2 x 3 x 4 1/2
FORE AND AFTERS					
Number					
Spacing					
Unsupported Lengths					
Scantling and Sketch					
Bearing Surface					
HATCH COVERS					
Material	wood				
Thickness	3"				
How fitted	fore & aft 4'-9" long				
Bearing Surface					
Spacing of Cleats	24"				
Number of Tarpaulins	2				

Particulars of fiddle, funnel and ventilator coamings: - Hinged steel covers, strongly constructed fitted on the fiddle top. 4 ventilators on engine room casing 24" dia. 40" thick height of coamings 4'-9". No funnel coaming. The engine & boiler casings strongly constructed. 2 hinged steel watertight doors port & starboard fitted to the fiddle entrance.

Particulars of Flush Bunker Scuttles: -

none.

Particulars of Companionways: - 1 on poop, steel of substantial construction fitted with a double door of wood - height of sill 15" above deck.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks: - On forecastle deck for No. 1 hold. 2 ventilators (p.s.) 18" dia. 4" thick height of coaming 3'-6" above deck. Fore deck (upper) 4 off 18" dia. 40" thick. Bridge deck for bridge space & hold, 2 off (p.s.) 13" dia. 40" thick height of coaming 3'-6" - 2 off (p.s.) fore end of cabin 9" dia. 40" thick 3'-6" height of coaming. After deck (upper) 6 off 18" dia. 40" thick coaming 3'-6" high. Poop deck 1 off for funnel 3'-6" coaming high 10" dia. thick 40". Several small cabin ventilators on fiddle & poop decks in good condition. Strong wood plugs with canvas covers for closing all ventilators.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, & superstructure decks: - On forecastle deck 3 off 10" above deck. Fore deck (u.d.) 2 off (p.s.) 20" above deck. Bridge deck 2 off 18" above deck. After deck (u.d.) 2 off (p.s.) 20" above deck. - Wood plugs for closing in case of necessity. The above are double bottom air pipes & are in good condition.

Particulars of Gangway Cargo and Coaling Ports: -

none.

Particulars of Scuppers and Sanitary Discharge Pipes

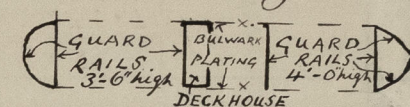
1 galvanised iron scupper pipe (staved) from the upper d.k. in the bridge space discharging about 9" below the upper d.k. This is an open head pipe. 2 Sanitary discharge pipes (galvanised iron) from the bridge deck passing through the bridge space, discharging through the ship's side about 15" above the freeboard deck. Fitted with storm valves & non-return valves. These pipes are not cased in.

Particulars of Side Scuttles:

In the forecastle & poop strong side scuttles fitted with properly constructed deadlights. No scuttles fitted in the bridge space or in the tween decks.

Particulars of Guard Rails:

Strong deck rails fitted on the forecastle deck, bridge deck at each end & on the poop deck. These guard rails are securely welded to the deck. Bulwark plating fitted on the bridge deck at sides 3'-6" high with efficient freeing ports.



Particulars of Gangways, Lifelines, etc.:

Efficient lifelines aboard. - There are no gangways aboard.

Note: - The crew are housed in the poop.

Particulars of Freeing Arrangements.

	Length of Bulwark on rail	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	89'-0"	3'-8"	4'-0" x 1'-8"	3	17.00	17.00
Forward Well	93'-0"	3'-8"	4'-0" x 1'-8"	3	17.00	17.30

State position of each freeing port page 4. (F. and A. position and height above deck edge) { After Well: - } 12" above deck edge. Forward Well: - }
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: - Each port fitted with 3 vertical rails & 1 horizontal rail securely fastened to the bulwark plating.
 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	42"	40"	angles 5 x 3 x 40	32"	none	3-5'6" x 2'-0"	18"	
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead	42"	40"	angles 5 x 3 x 40	32"	none	2-5'0" x 3'-6"	15"	
Bridge, Forward Bulkhead	42"	40"	Channel 6 x 3 x 160	24"	Brackets top & bottom	2-5'0" x 3'-6"	15"	
Forecastle Bulkhead	42"	40"	angles 4 x 3 x 42	36"	none	2-5'0" x 2'-0"	15"	
Trunk, Aft						1-5'0" x 4'-0"	15"	
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Deck								
Exposed Machinery Casings on Superstructure Decks	42"	40"	angles 3 1/2 x 3 1/2 x 4	30"	Brackets	2-5'3" x 2'-0"	18"	7'-6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances						as originally constructed.		
Deckhouses on Flush Deck Ships								

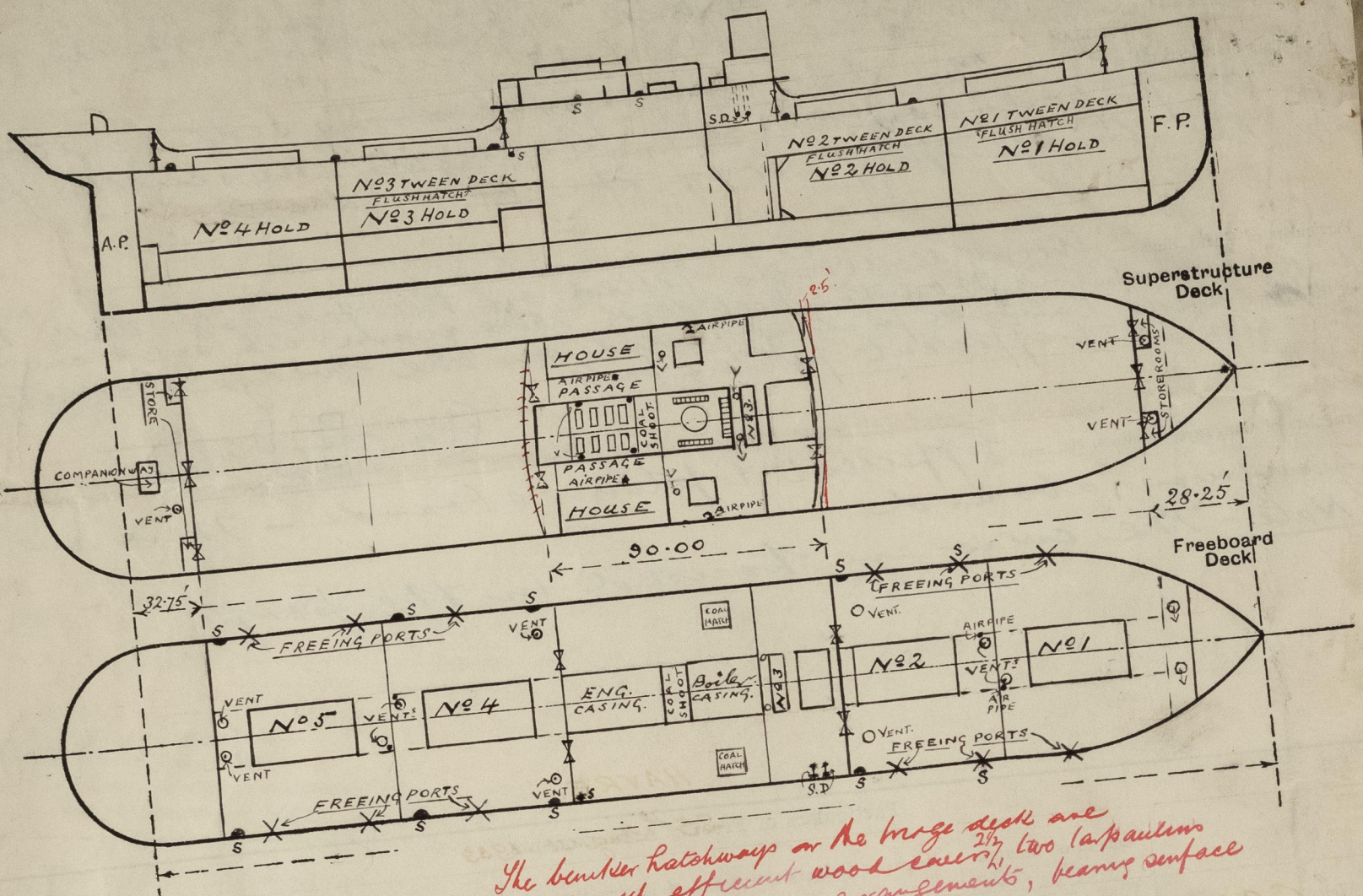
Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead	strong steel hinged w.t. door	2 steel hinged w.t. doors to watertight storerooms
Raised Quarter Deck Bulkhead		
Bridge, After Bulkhead	Port side. 1 opening with riveted channels into which an ordinary hinged wood door has been fitted. Starboard 1 opening with riveted channels & shifting board fitted.	
Bridge, Forward Bulkhead	2 strong steel hinged watertight doors (port & starboard) with riveted channels into which an ordinary wood door has been fitted.	
Forecastle Bulkhead		
Exposed Machinery Casings on Freeboard or Raised Quarter Deck		
Exposed Machinery Casings on Superstructure Decks		
Machinery Casings within Superstructures not fitted with Class I Closing Appliances		
Deckhouses on Flush Deck Ships		

2 steel w.t. hinged doors (p.s.) in fiddle entrance.

PARTICULARS OF PROTECTION

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:—



The bunker hatchways on the large deck are provided with efficient wood covers, two tarpaulins & satisfactory battening arrangements, bearing surface forward cover 2 1/2"

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

Note: The survey has been held afloat, & only confined to an examination of the means of closing the openings the decks & sides of the vessel. The Owners state that the vessel will probably be drydocked about the end of April 1933.

Bunker Hatchways on the freeboard deck in large space
 Port 1 @ 4'9" x 4'2"
 1 @ 4'9" x 3'8"
 Star 2 @ 4'9" x 4'2"
 1 @ 4'9" x 3'8"
 Coam 10" x 4'2"
 Cover 3" wood
 beams 2 1/2"
 two tarpaulins + battening
 arrangements efficient.

Builder's name and yard number ✓

Names of sister ships ✓

Owners Vie. Nautaise de Navigation à Vapeur.

Received by me ✓

Fee frs 1488.
 Travelling Exps 5.
 Total frs 1493.



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