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14 APR 1936

Index. No. 34877  
(For London Office only.)

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

GRK. REPORT No 20114

Computation of Freeboard for Steamer, Sailing Ship, Tanker  
having POOP, BRIDGE AND FORECASTLE

(Type of Superstructures.)

Ship's Name <u>JALAGANGA</u>	Nationality and Port of Registry <u>BRITISH BOMBAY</u>	Official Number <u>150002</u>	Gross Tonnage <u>4981</u> <u>4970</u>	Date of Build <u>Now 1936</u> <u>BUILDING</u> <u>5 mos.</u>
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Moulded Dimensions: Length 399' 0" Breadth 51' 9" Depth 30' 6"  
Moulded displacement at moulded draught = 85 per cent. of moulded depth 11705 tons  
Coefficient of fineness for use with Tables .765

Port of Survey GREENOCK  
Date of Survey WHILE BUILDING  
Name of Surveyor Kenneth Inglis  
Particulars of Classification \*100 A.I.

<p>Depth for Freeboard (D)</p> <p>Moulded depth ... <u>30' 5"</u></p> <p>Stringer plate ... <u>38"</u> ... <u>.03</u></p> <p>Sheathing on exposed deck</p> <p><math>T \left( \frac{L-S}{L} \right) =</math> <u>✓</u></p> <p>Depth for Freeboard (D) = <u>30' 53"</u></p>	<p>Depth correction</p> <p>(a) Where D is greater than Table depth <u>3' 93"</u> (D-Table depth) R = <math>(30' 53" - 26' 60")</math> <u>3' 00"</u> = <u>+ 11' 79"</u></p> <p>(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <u>✓</u></p> <p>If restricted by superstructures <u>✓</u></p>	<p>Round of Beam correction</p> <p>Moulded Breadth (B) <u>51' 75"</u></p> <p>Standard Round of Beam = <math>\frac{B \times 12}{50} =</math> <u>12' 42"</u></p> <p>Ship's Round of Beam = <u>13'</u></p> <p>Difference <u>Excess .58"</u></p> <p>Restricted to</p> <p>Correction = <math>\frac{\text{Diff}^a}{4} \times \left( 1 - \frac{S_1}{L} \right) =</math> <u><math>\frac{.58}{4} \times .4573 = -.07</math></u></p>
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### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	<u>40' 25"</u>	<u>40' 25"</u>	<u>7' 3"</u>	<u>7' 46"</u>	<u>40' 08"</u>	Standard Height of Superstructure <u>7' 49"</u>
" overhang ...			<u>+ 22' 32"</u>	<u>7' 49"</u>		" " R.Q.D. <u>✓</u>
R.Q.D. enclosed						Deduction for complete superstructure <u>41' 93"</u>
" overhang						Percentage covered $\frac{S}{L} =$ <u>54' 27%</u>
Bridge enclosed...	<u>144' 66"</u>	<u>144' 66"</u>	<u>8' 0"</u>	<u>✓</u>	<u>144' 66"</u>	" $\frac{S_1}{L} =$ <u>54' 27%</u>
" overhang aft						" $\frac{E}{L} =$ <u>53' 97%</u>
" overhang forward						Percentage from Table, Line A. <u>✓</u>
Fore enclosed ...	<u>29' 36"</u>	<u>29' 36"</u>	<u>7' 3"</u>	<u>7' 25"</u>	<u>28' 42"</u>	(corrected for absence of forecastle (if required))
" overhang ...	<u>2' 25"</u>	<u>2' 25"</u>		<u>7' 49"</u>	<u>2' 18"</u>	Percentage from Table, Line B. <u>39' 97%</u>
Trunk aft						(corrected for absence of forecastle (if required))
" forward						Interpolation for bridge less than 2L (if required)
Tonnage opening aft						Deduction = <u>41' 93" × .3997 = -16' 76"</u>
" forward						
Total ...	<u>216' 52"</u>	<u>216' 52"</u>			<u>215' 34"</u>	

### SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product	
A.P. ...	<u>49' 90"</u>	1	<u>49' 90"</u>	<u>54</u>	<u>54' 00"</u>	1	<u>54' 00"</u>	Mean actual sheer aft = <u>Excess</u>
$\frac{1}{8}$ L from A.P. ...	<u>22' 205"</u>	4	<u>88' 82"</u>	<u>24</u>	<u>24' 00"</u>	4	<u>96' 00"</u>	Mean actual sheer forward = <u>Excess</u>
$\frac{3}{8}$ L " ...	<u>5' 49"</u>	2	<u>10' 98"</u>	<u>6</u>	<u>6' 00"</u>	2	<u>12' 00"</u>	Length of enclosed superstructure forward of amidships = <u>&gt; .1L</u>
Amidships ...	<u>✓</u>	4	<u>✓</u>	<u>0</u>	<u>✓</u>	4	<u>✓</u>	" " aft of " = <u>&gt; .1L</u>
$\frac{3}{8}$ L from F.P. ...	<u>10' 98"</u>	2	<u>21' 96"</u>	<u>12</u>	<u>12' 00"</u>	2	<u>24' 00"</u>	
$\frac{1}{8}$ L " ...	<u>44' 41"</u>	4	<u>177' 64"</u>	<u>48</u>	<u>48' 00"</u>	4	<u>192' 00"</u>	
F.P. ...	<u>99' 80"</u>	1	<u>99' 80"</u>	<u>108</u>	<u>108' 00"</u>	1	<u>108' 00"</u>	
Total ...			<u>449' 10"</u>				<u>486' 00"</u>	

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{36' 70"}{18} \left( .75 - \frac{.2713}{.4787} \right) = -.98"$

If limited on account of midship superstructure. ✓ If limited to maximum allowance of  $1\frac{1}{2}$  ins. per 100 ft. ✓

<p>Deduction for Tropical Freeboard.</p> <p>Addition for Winter and Winter North Atlantic Freeboard.</p> <p>Depth to Freeboard Deck = <u>30' 53"</u></p> <p>Summer freeboard = <u>5' 79"</u></p> <p>Moulded draught (d) = <u>24' 74"</u></p> <p>Deduction for Tropical freeboard and addition for Winter freeboard = <math>\frac{d}{4}</math> inches = <u>6' 18" = 6' 1/4"</u></p> <p>Addition for Winter North Atlantic Freeboard (if required) = <u>✓</u></p>	<p>Deduction for Fresh Water.</p> <p>Displacement in salt water at summer load water line <u>11285 Tons</u></p> <p><math>\Delta = 24' - 10787 \text{ Tons}</math></p> <p>Tons per inch immersion at summer load water line <u>41.5</u></p> <p><math>T = 24' - 41.17</math> <u>41' 47"</u></p> <p>Deduction = <math>\frac{\Delta}{40 T}</math> inches = <u>6' 78"</u></p> <p>= <u>6' 3/4"</u></p>	<p>TABULAR FREEBOARD corrected for Flush Deck (if required)</p> <p>Correction for coefficient <math>\frac{.765 + .68}{1.36} = \frac{1.445}{1.360}</math></p> <table border="1"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction ...</td> <td><u>11' 79"</u></td> <td></td> </tr> <tr> <td>Deduction for superstructures ...</td> <td></td> <td><u>16' 76"</u></td> </tr> <tr> <td>Sheer correction ...</td> <td></td> <td><u>.98</u></td> </tr> <tr> <td>Round of Beam correction ...</td> <td></td> <td><u>.07</u></td> </tr> <tr> <td>Correction for Thickness of Deck amidships ...</td> <td></td> <td></td> </tr> <tr> <td>Other corrections, scantlings, etc. ...</td> <td></td> <td></td> </tr> <tr> <td></td> <td><u>11' 79"</u></td> <td><u>17' 81"</u></td> </tr> </table> <p>Summer Freeboard = <u>69' 62"</u></p>		+	-	Depth Correction ...	<u>11' 79"</u>		Deduction for superstructures ...		<u>16' 76"</u>	Sheer correction ...		<u>.98</u>	Round of Beam correction ...		<u>.07</u>	Correction for Thickness of Deck amidships ...			Other corrections, scantlings, etc. ...				<u>11' 79"</u>	<u>17' 81"</u>
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### SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~, Steel, Deck:—

Tropical Fresh Water Line above Centre of Disc ...	<u>13'</u>	Tropical Fresh Water Freeboard ...	<u>5' 9 1/2"</u>
Fresh Water Line " " ...	<u>6 3/4"</u>	Fresh Water " " ...	<u>4' 8 1/2"</u>
Tropical Line " " ...	<u>6 3/4"</u>	Tropical " " ...	<u>5' 2 3/4"</u>
Winter Line below " " ...	<u>6 3/4"</u>	Winter " " ...	<u>5' 3 3/4"</u>
Winter North Atlantic Line " " ...	<u>✓</u>	Winter North Atlantic " " ...	<u>6' 3 3/4"</u>

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# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS						
Description of Hatchway	UPPER DECK					
	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
Dimensions of Hatchway	24'9" x 18'0"	30'4" x 18'0"	16'4" x 18'0"	30'4" x 18'0"	25'8" x 18'0"	16'4" x 18'0"
COAMINGS	Height above Deck	30"	30"	30"	30"	30"
	Thickness	50"	50"	50"	50"	50"
	Stiffeners	4"	4"	4"	4"	4"
	Brackets, Stays	2 1/2" x 4 1/2" BA Sides 2 1/2" x 4 1/2" BA Ends 2 1/2" Round Iron Stays	2 1/2" x 4 1/2" BA Sides 2 1/2" x 4 1/2" BA Ends 2 1/2" Round Iron Stays	2 1/2" x 4 1/2" BA Sides 2 1/2" x 4 1/2" BA Ends 2 1/2" Round Iron Stays	2 1/2" x 4 1/2" BA Sides 2 1/2" x 4 1/2" BA Ends 2 1/2" Round Iron Stays	2 1/2" x 4 1/2" BA Sides 2 1/2" x 4 1/2" BA Ends 2 1/2" Round Iron Stays
HATCH BEAMS	Number	4	5	3	5	4
	Spacing	5'-0 1/2"	5'-1 1/2"	4'-1"	5'-1 1/2"	5'-2 3/4"
	Scantling and Sketch	16" x 36"	16" x 37"	14" x 34"	16" x 37"	16" x 38"
	Bearing Surface	Fitted with rollers	Fitted with rollers	Cast steel sockets see plan	Fitted with rollers	Fitted with rollers
FORE AND AFTERS	Number					
	Spacing					
	Unsupported Lengths					
	Scantling and Sketch					
HATCH COVERS	Material	W.P.	W.P.	W.P.	W.P.	W.P.
	Thickness	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
	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"	24"
Number of Taraulins	2	2	1	2	2	2

Particulars of fiddle, funnel and ventilator coamings:—

FIDDLE, FUNNEL & VENTILATOR COAMINGS EFFICIENT.  
FIDDLE GRATINGS COVERED WITH STRONG STEEL HINGED COVERS.  
ENGINE ROOM SKYLIGHT OF STEEL, STRONGLY CONSTRUCTED.

Particulars of Flush Bunker Scuttles:—

NONE.

Particulars of Companionways:—

NONE.

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

FORECASTLE DK. 1 VENT 8" DIA TO STORE COAMING 30" x 32"  
2 " 16" DIA TO HOLD " 36" x 38"  
FORWARD WELL 10 VENTS 16" DIA TO HOLDS COAMING 36" x 38"  
AFTER WELL 12 VENTS 16" DIA " " " 36" x 38"  
BRIDGE DK 2 VENTS 16" DIA TO HOLDS COAMING 30" x 38"  
2 " 16" " TO CROSS BUNKER " 30" x 38"  
2 " 18" " " SIDE BUNKERS " 30" x 40"

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

FORECASTLE DK. 3-5 N. AIR PIPES TO FORE PEAK TANK 5" DIA 18" HIGH.  
1 " " " D. BOTTOM " 3" " 18" "  
FORWARD WELL 2 " " " " " 3" " 36" "  
2 " " " " " 5" " 12" "  
BRIDGE DECK 3 " " " " " 5" " 18" "  
6 " " " " " 3" " 18" "

\* See Approved Plan of Pumping Arrangement.

Particulars of Gangway Cargo and Coaling Ports:—

NONE.

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Particulars of Scuppers and Sanitary Discharge Pipes:—

SCUPPERS. 1-2" DIA P4S TO POOP SPACE FITTED WITH STORM VALVE & WOOD PLUGS AT INNER END.  
1-2" " P4S TO BRIDGE SPACE  
INWELL COLLISION SCUPPERS FITTED AT FORE END OF POOP, AFT END OF BRIDGE & FORE END OF BRIDGE.  
OTHERWISE STRINGER BAR CUT FOR SCUPPERS IN WELL.  
SANITARY DISCHARGES BELOW UPPER DECK. FROM POOP. 1-2" SINK & 4" W.C. DISCHARGE P4S FITTED WITH STORM VALVE & USUAL TRAP AT INNER END.  
FROM BRIDGE 1-2" BATH & 1 1/4" W.C. STAR SIDE FITTED WITH STORM VALVE & USUAL TRAP AT INNER END.

Particulars of Side Scuttles:—

SIDE SCUTTLES IN POOP & FORECASTLE TWEEN DECKS 10" x 12" DIA OF SUBSTANTIAL CONSTRUCTION.  
AND FITTED WITH HINGED DEADLIGHTS.  
SIDE SCUTTLES TO STEERING GEAR SPACE BELOW UPPER DK. 12" DIA. OF SUBSTANTIAL CONSTRUCTION.  
& FITTED WITH HINGED DEADLIGHTS. FITTED 20" BELOW UPPER DK.

Particulars of Guard Rails:—

POOP BRIDGE & FORECASTLE FITTED WITH 3 RAILS 3'-6" HIGH WITH STANCHIONS ABOUT 5' APART.  
STEEL BULWARKS OF SUBSTANTIAL CONSTRUCTION FITTED IN WELLS 3'-6" HIGH WITH 3 RAILS & STANCHIONS (PORTABLE)  
IN WAY OF NOS 2, 3 & 4 HATCHES. BULWARK STAYS 6" B.A.S. SPACED 6'-0" APART.

Particulars of Gangways, Lifelines, etc.:—

MEANS ARE PROVIDED FOR SECURING LIFELINES TO SAFEGUARD THE CREWS IN PASSAGE TOY FROM.  
THEIR QUARTERS & FOR THE SAFE WORKING OF THE VESSEL.

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	90'	3'-6"	OPEN RAIL IN WAY OF NO 4 HATCH - 26'-0" NO 3 HATCH - 21'-6"	✓	✓	18.00 ft
Forward Well	92'	3'-6"	NO 2 HATCH - 20'	✓	✓	18.40 ft

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. ✓

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	38	38	6 x 3 x 440A	30"	WELDED TOP & BOTTOM	2 @ 5' x 2' 6" 4 @ 5' x 2' 3"	18"	
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead	30	30	4 x 3 x 320A	30"	NONE	2 @ 5' x 3'-6" 1 @ 5' x 2'-6"	18"	
Bridge, Forward Bulkhead	44	44	9 x 3 x 448A	30"	WELDED TOP & BOTTOM	2 @ 5' x 3' 1 @ 5' x 4'	18"	✓
Forecastle Bulkhead	30	30	4 x 3 x 320A	30"	NONE	1 @ 5' x 2'	18"	
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks								
Exposed Machinery Casings on Superstructure Decks	34	30	3 x 3 x 300A	30"	BRAKETS AT TOP CONTS AT BOTTOM	2 DOOR P4S 5'-0" x 2'-7" 1 PORTABLE PLATE 6' x 3'	18"	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	30	26	3 x 3 x 300A	30"	NONE AT BOTTOM	5'-3" x 3'-6" 5'-0" x 4'-8" 2'-0" x 2'-0" 5'-7" x 10'-6"	18"	✓
Deckhouses on Flush Deck Ships								

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

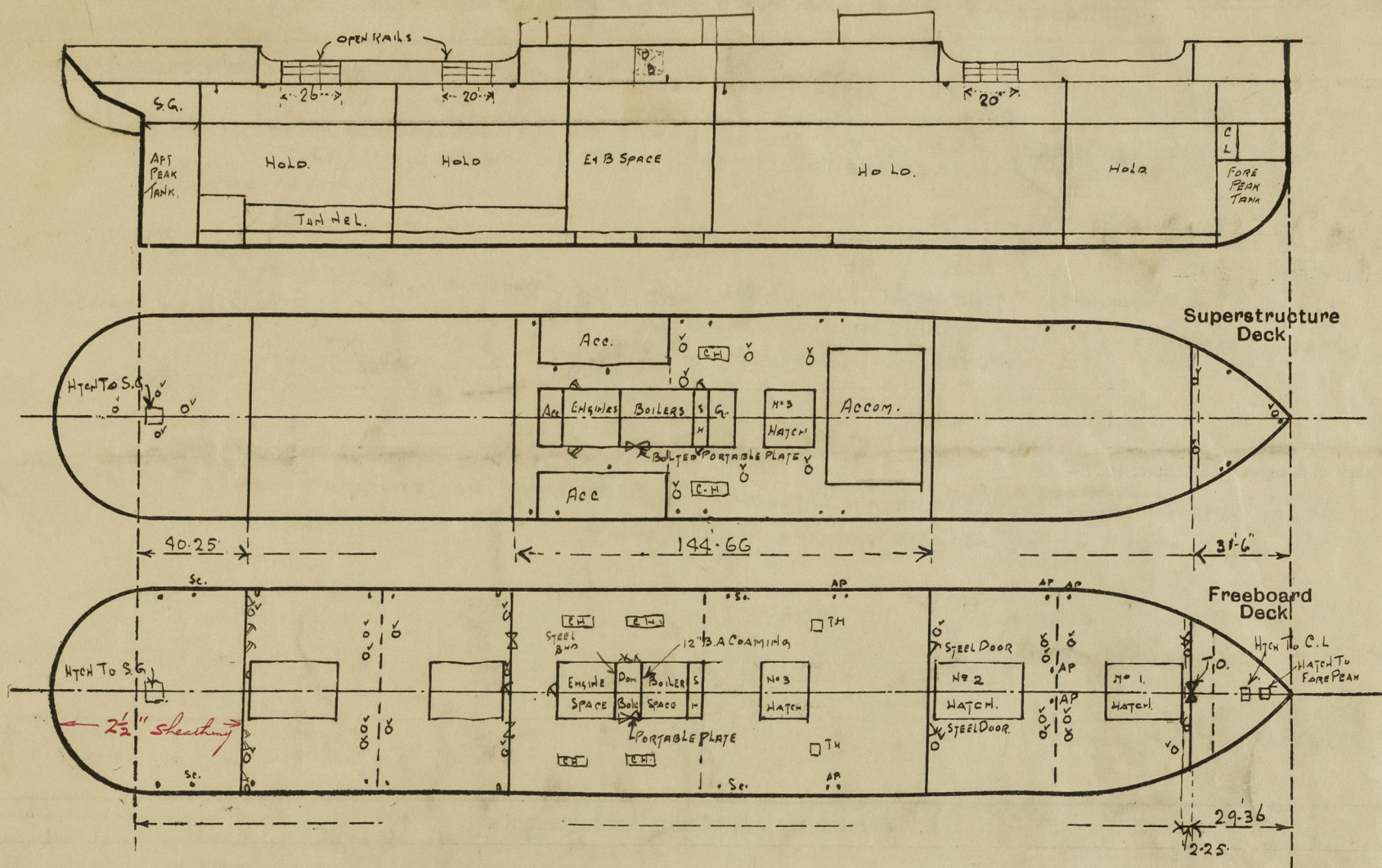
Poop Bulkhead	2 STEEL DOORS & 4 WOOD DOORS CAPABLE OF BEING MANIPULATED FROM BOTH SIDES.
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	2 TONNAGE OPENINGS 5' x 3'-6" WITH BOARDS 3" THICK FITTED IN CHANNELS RIVETED TO BULKHEAD & ONE STEEL HINGED DOOR (WORKABLE FROM BOTH SIDES)
Bridge, Forward Bulkhead	2 HINGED WATERTIGHT STEEL DOORS. MANIPULATED FROM BOTH SIDES. CLIPS. 21" APART
Forecastle Bulkhead	TONNAGE OPENING 5' x 4' WITH BOARDS 3 1/2" THICK FITTED IN CHANNELS RIVETED TO BULKHEAD & ONE STEEL DOOR CAPABLE OF BEING MANIPULATED FROM BOTH SIDES
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	STEEL DOORS P4S TO BOILER CASING. MANIPULATED FROM BOTH SIDES. (NOT EXPOSED). WOOD DOORS P4S TO ENGINE CASING. PORTABLE PLATE IN ALLEYWAY. FITTED WITH BOLTS 4 1/2" APART
Exposed Machinery Casings on Superstructure Decks	ONE STEEL DOOR TO ENGINE ROOM. CAPABLE OF BEING MANIPULATED FROM BOTH SIDES. ONE HINGED DOUBLE STEEL DOOR TO DONKEY BOILER FLAT. CAN BE MANIPULATED FROM BOTH SIDES. ONE HINGED STEEL COALING DOOR TO DONKEY BOILER FLAT. FITTED WITH 2 CLIPS. ONE BOLTED PLATE ON STAR SIDE FOR WITHDRAWING TUBES. BOLTS 4 1/2" APART
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:—



State any special features in the construction of the ship:— This vessel has been built in accordance with the approved plans and in general conformity with the Society's rules for the class contemplated.

The vessel is to be engaged on International trade & a freeboard request is forwarded herewith.

The approved plans of midship section, profile & decks & hatches are forwarded for reference.

Builder's name and yard number LITHGOWS LTD No 881.

Names of sister ships LITHGOWS LTD No 882. New Building.

Owners SCINDIA STEAM NAVIGATION Co. LTD

Approx. Fee £ 15 0 0

Received by me \_\_\_\_\_

To Be RENDERED WITH FIRST ENTRY.



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