

Rpt. C.1134602
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Bralanta
Basila

Rpt. No. 1517
COPY WRITTEN
Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

Index. No. 35118
(For London Office only.)

15 DEC 1936

Computation of Freeboard for ~~Steamer~~ Sailing Ship, Tanker
having *poop, bridge and forecastle*

Port of Survey *Malmö*

Date of Survey *White building*

Name of Surveyor *Aekunden*

Particulars of Classification *100A1*
Carrying Petroleum in Bulk
(Contemplated)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build	
<i>M/T "HAYKONG"</i>	<i>Norwegian Oslo</i>		<i>9666.24</i>	<i>1937</i>	
Moulded Dimensions: Length	<i>490.0'</i>	Breadth	<i>62.75'</i>	Depth	<i>36.583</i>
Moulded displacement at moulded draught	= 85 per cent. of moulded depth				<i>21905</i> tons
Coefficient of fineness for use with Tables	<i>0.802</i>				

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <i>36.583</i>	(a) Where D is greater than Table depth (D - Table depth) R = <i>(36.65 - 32.67) 3 = + 11.94</i>	Moulded Breadth (B) <i>62.75'</i>
Stringer plate <i>0.65</i>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <i>3.98</i>	Standard Round of Beam = $\frac{B \times 12}{50} =$ <i>15.06"</i>
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$		Ship's Round of Beam = <i>13.0"</i>
Depth for Freeboard (D) = <i>36.648</i>	If restricted by superstructures	Difference <i>2.06" deficient</i>
		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{2.06}{4} \times .5892 = + .30"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	<i>97.0'</i>	<i>97.00</i>	<i>7.75'</i>		<i>97.00</i>	Standard Height of Superstructure <i>7.5'</i>
" overhang						" " R.Q.D. <i>✓</i>
R.Q.D. enclosed						Deduction for complete superstructure <i>42.00"</i>
" overhang	<i>45.32</i>					Percentage covered $\frac{S}{L} =$ <i>41.08</i>
Bridge enclosed	<i>40.65'</i>	<i>45.32</i>	<i>7.75'</i>		<i>45.32</i>	" " $\frac{S_1}{L} =$ <i>41.08</i>
" overhang aft						" " $\frac{E}{L} =$ <i>41.08</i>
" overhang forward						Percentage from Table, Line A. <i>Tanker</i> <i>32.08</i>
F'cle enclosed	<i>58.97'</i>	<i>58.97</i>	<i>7.50'</i>		<i>58.97</i>	(corrected for absence of forecastle (if required))
" overhang						Percentage from Table, Line B.
Trunk aft						(corrected for absence of forecastle (if required))
" forward						Interpolation for bridge less than .2L (if required)
Tonnage opening aft						Deduction = <i>42 × .3208 = -13.47"</i>
" " forward						
Total	<i>201.29</i>	<i>201.29</i>			<i>201.29</i>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	<i>59.00</i>	1		<i>59.00</i>	<i>35.20"</i>	<i>35.20</i>	1		<i>35.20</i>	Mean actual sheer aft = <i>Deficient</i>
$\frac{1}{2}$ L from A.P.	<i>26.255</i>	4		<i>105.02</i>	<i>2.87"</i>	<i>2.87</i>	4		<i>11.48</i>	Mean actual sheer forward = <i>Deficient</i>
$\frac{3}{8}$ L "	<i>6.49</i>	2		<i>12.98</i>	<i>0.</i>	-	2			Mean standard sheer forward
Amidships	-	4		-	<i>0.</i>	-	4			Length of enclosed superstructure forward of amidships = <i>Tanker</i>
$\frac{3}{8}$ L from F.P.	<i>12.98</i>	2		<i>25.96</i>	<i>2.01"</i>	<i>2.01</i>	2		<i>4.02</i>	" " aft of " =
$\frac{1}{2}$ L "	<i>52.51</i>	4		<i>210.04</i>	<i>30.36"</i>	<i>30.36</i>	4		<i>121.44</i>	
F.P.	<i>118.00</i>	1		<i>118.00</i>	<i>95.95"</i>	<i>95.95</i>	1		<i>95.95</i>	
Total				<i>531.00</i>					<i>268.09</i>	

Correction = $\frac{\text{Difference between sums of products}}{18} = \frac{262.91}{18} = 14.605$
 $(.75 - \frac{S}{2L}) = \frac{.75 - .2054}{.5446} = + 7.95$

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.	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ <i>19865</i> Tons per inch immersion at summer load water line $T =$ <i>66.15</i> Deduction = $\frac{\Delta}{40T}$ inches $= \frac{19865}{40 \times 66.15} = 7.51 = 7\frac{1}{2}"$	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{.802 + .68}{1.36} = \frac{1.482}{1.36}$ <table><tr><td></td><td>+</td><td>-</td></tr><tr><td>Depth Correction</td><td><i>11.94</i></td><td>-</td></tr><tr><td>Deduction for superstructures</td><td>-</td><td><i>13.47</i></td></tr><tr><td>Sheer correction</td><td><i>7.95</i></td><td>-</td></tr><tr><td>Round of Beam correction</td><td><i>.30</i></td><td>-</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><i>20.19</i></td><td><i>13.47</i></td></tr></table> <p>Summer Freeboard = <i>99.46</i></p>		+	-	Depth Correction	<i>11.94</i>	-	Deduction for superstructures	-	<i>13.47</i>	Sheer correction	<i>7.95</i>	-	Round of Beam correction	<i>.30</i>	-	Correction for Thickness of Deck amidships	-	-	Other corrections, scantlings, etc.	-	-		<i>20.19</i>	<i>13.47</i>	<i>85.10</i> <i>92.74</i>
	+	-																									
Depth Correction	<i>11.94</i>	-																									
Deduction for superstructures	-	<i>13.47</i>																									
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Correction for Thickness of Deck amidships	-	-																									
Other corrections, scantlings, etc.	-	-																									
	<i>20.19</i>	<i>13.47</i>																									
Depth to Freeboard Deck = <i>36.65'</i>																											
Summer freeboard = <i>8.29'</i>																											
Moulded draught (d) = <i>28.36'</i>																											
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <i>7.09 = 7"</i>																											
Addition for Winter North Atlantic Freeboard (if required) = <i>7.09 + 4.90 = 11.99 = 12"</i>																											

See back of report!

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

Tropical Fresh Water Line above Centre of Disc	<i>14 1/2"</i>	<i>368</i>	Tropical Fresh Water Freeboard	<i>7' 1"</i>	<i>2527</i>
Fresh Water Line " "	<i>7 1/2"</i>	<i>190</i>	Fresh Water " "	<i>7' 8"</i>	<i>2337</i>
Tropical Line " "	<i>7"</i>	<i>178</i>	Tropical " "	<i>7' 8 1/2"</i>	<i>2349</i>
Winter Line below " "	<i>7"</i>	<i>178</i>	Winter " "	<i>8' 10 1/2"</i>	<i>2705</i>
Winter North Atlantic Line " "	<i>12"</i>	<i>305</i>	Winter North Atlantic " "	<i>9' 3 1/2"</i>	<i>2832</i>

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Description of Hatchway		Freeboard deck		Poop deck		Bridge deck		Fore deck		Hatchways	
Dimensions of Hatchway		4'-0" x 6'-0"		11'-3" x 11'-3"		9'-0" x 8'-0"		12'-4" x 13'-4"		8'-4" x 7'-6"	
COAMINGS	Height above Deck	12"	39"	110	12"	250	850	170	32 1/2"	380	
	Thickness	40	40	10	40	65	10	10	44	65	
	Sides	40	40	10	40	65	10	10	44	65	
	Stiffeners										
	Brackets, Stays										
HATCH BEAMS	Number								6'-2 1/4"		
	Spacing								360 x 230 x 9		
	Scantling and Sketch								202 x 15		
	Bearing Surface								75 mm.		
FORE AND AFTERS	Number										
	Spacing										
	Unsupported Lengths										
	Scantling and Sketch										
	Bearing Surface										
HATCH COVERS	Material										
	Thickness	50	50	10 mm.	44	7 mm.	Wood	Steel	Wood	Steel	
	How fitted	Hinged	Hinged	Plated	Hinged	Hinged	Alum.	Hinged	F & A	Hinged	
	Bearing Surface						3"	3"	3" & 4"	3 mm.	
							450 mm.		550-585 mm.		
Spacing of Cleats							2		2		
Number of Tarpaulins											
<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:—

Fiddle openings on top of donkey boiler casing fitted with hinged steel covers.
Funnel plating 5 mm.
Ventilator coamings:— Diam. 470 x 770 mm. Hgt. 915 mm. & 2550 mm. (Plated.)

Particulars of Flush Bunker Scuttles:— *None.*

Particulars of Companionways:—

Poop space entrance at sides of poop deck house.
Doorways 1600 x 640 mm. Hgt. of sills 460 mm.
48 mm. thick solid teak doors, manipulated from both sides.

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

Poop deck:— Diam. 9" to 12". Thicken. 32" to 34". Hgt. 30".
Fore deck:— Derrick posts of strong construction.
Aft deck:— Diam. 12". Thicken. 34". Hgt. 36".
All vent. coamings are electrically welded to decks and all are provided with means of closing.

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

Poop deck:— Goose-necks 30" high.
Fore deck:— " 39" "
Aft deck:— " 36" "
All provided with means for closing.

Particulars of Gangway Cargo and Coaling Ports:—

None.

Particulars of Scuppers and Sanitary Discharge Pipes:— *No scuppers below foreboard deck.*

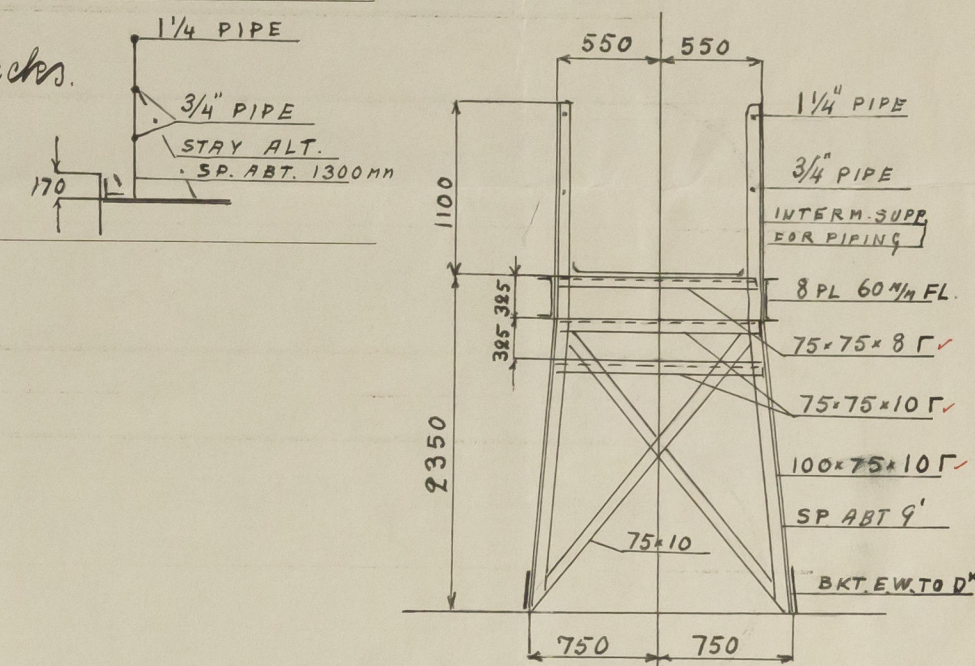
Sanitary discharge pipes from poop deck house and from poop space are led overboard about 1' above 2nd deck. From accommodations on bridge deck are pipes led overboard above fore deck & from fore space, port side, in the fore pump room. All discharge ends are fitted with storm valves & all overboard drain pipes from the poop space are in addition fitted with non-detachable cork plugs at their inner ends.

Particulars of Side Scuttles:—

All side scuttles are fitted with hinged, inside deadlights.

Particulars of Guard Rails:—

Open rails 1100 mm. high on poop, fore & fore. decks.
Strong bulwark 1100 mm. high on bridge deck.



Particulars of Gangways, Lifelines, etc.:—

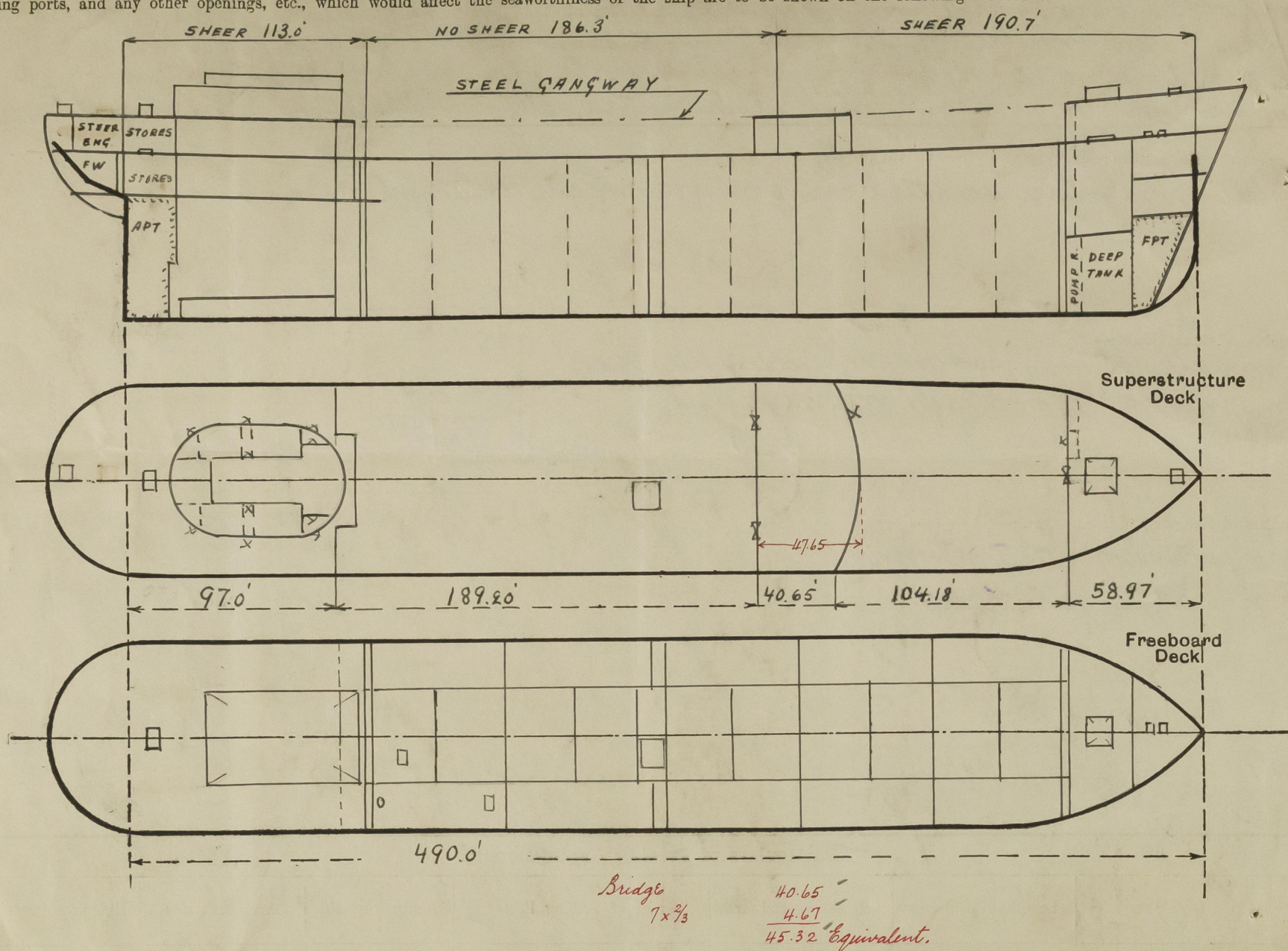
Steel gangway fitted between poop-bridge-fore. decks.

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			<i>Open rails.</i>			
Forward Well						
<p>State position of each freeing port (F. and A. position and height above deck edge) { After Well:— Forward Well:—</p> <p>State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—</p> <p>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
Poep Bulkhead	<i>6 W. to dke.</i>	<i>47"</i>	<i>280 x 90 x 12.5</i>	<i>800</i>	<i>T. to long. B. to W. to dke.</i>	<i>None</i>	<i>-</i>	<i>7'-9"</i>
Raised Quarter Deck Bulkhead	<i>150 x 150 x 12.5</i>	<i>47"-49"</i>	<i>280 x 90 x 12.5</i>	<i>740</i>	<i>T. to long. B. Carr. down B. to W. to dke. T. to long.</i>	<i>None</i>	<i>-</i>	<i>7'-9"</i>
Bridge, After Bulkhead	<i>Pl. & W. to dke.</i>	<i>34"</i>	<i>130 x 75 x 10.5</i>	<i>780-865</i>	<i>T. to long. B. to W. to dke. T. to long.</i>	<i>1245 x 940</i>	<i>585</i>	<i>7'-9"</i>
Bridge, Forward Bulkhead	<i>Pl. & W. to dke.</i>	<i>48"</i>	<i>280 x 90 x 12.5</i>	<i>780-865</i>	<i>T. to long. B. to W. to dke. T. to long.</i>	<i>1590 x 950</i>	<i>400</i>	<i>7'-9"</i>
Forecastle Bulkhead		<i>34"</i>	<i>150 x 75 x 9.5</i>	<i>915</i>	<i>T. to long. B. to fore.</i>	<i>1470 x 735</i>	<i>410</i>	<i>7'-6"</i>
Trunk, Aft								
Trunk, Forward	<i>710 x 8 mm.</i>	<i>32"</i>	<i>90 x 60 x 8.5</i>	<i>510 x 610</i>	<i>-</i>	<i>1370 x 840</i>	<i>1220</i>	<i>10'-0"</i>
Exposed Machinery Casings on Freeboard or Raised Quarter Deck								
Exposed Machinery Casings on Superstructure Decks	<i>130 x 65 x 8.5</i>	<i>32"</i>	<i>75 x 65 x 7.5</i>	<i>550-650</i>	<i>T. to long. B. to fore.</i>	<i>1600 x 685</i>	<i>405</i>	<i>10'-6"</i>
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).	
Poep Bulkhead	
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	<i>3/4" shifting boards in riveted channels, full height.</i>
Bridge, Forward Bulkhead	<i>Hinged W.T. steel door, manipulated from both sides.</i>
Forecastle Bulkhead	<i>3/4" shifting boards in riveted channels (fore. space).</i>
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	
Exposed Machinery Casings on Superstructure Decks	<i>Hinged W.T. steel door, manipulated from both sides.</i>
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships	<i>48 mm. solid teak doors, manipulated from both sides.</i>

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:— *Longitudinal framing.*
Part electrically welded including butts of shell and deck plating,
connections of bulkheads, ribs and longitudinals.

Displacement in salt water and tons per inch immersion:—

Moulded draught.	Displacement.	Tons per inch.
27.43'	19127 tons	65.9 tons.
31.09'	22055 "	66.9 "
34.75'	24947 "	67.5 "

Builder's name and yard number *Rockness Mbk. Verkestaads Aktie. Yard No. 192.*

Names of sister ships *M/T "BRALANTA", Messrs. Rockness Yard No. 191.*

Owners *G/S Havtor, P. Meyer, Oslo.*

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