

Rpt. No. 1351

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

26 APR 1935

Index. No.

(For London Office only.)

34440

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having poop, bridge and forecastle.

Port of Survey Mahm

Date of Survey 22nd Jan. & 20th April, 1935.

Name of Surveyor Admiral

Particulars of Classification 100A1
Carrying Petroleum in Bulk
(Contingent)

(Type of Superstructures.) Signed Letters L.I.Y.T

Ship's Name <u>M/S "FAGERFJELL"</u>	Nationality and Port of Registry <u>Norwegian Oslo</u>	Official Number <u>8072</u>	Gross Tonnage <u>1935</u>	Date of Build <u>1935</u>
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Moulded Dimensions: Length 460'-0" Breadth 59'-6" Depth 34'-7"

Moulded displacement at moulded draught = 85 per cent. of moulded depth 18530 tons

Coefficient of fineness for use with Tables 806

<p>Depth for Freeboard (D)</p> <p>Moulded depth ... <u>34.583</u></p> <p>Stringer plate <u>67"</u> ... <u>.056</u></p> <p>Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ <u>✓</u></p> <p>Depth for Freeboard (D) = <u>34.639</u></p>	<p>Depth correction</p> <p>(a) Where D is greater than Table depth (D-Table depth) R = $(34.64 - 30.67) 3.00$ $= + 11.91"$ ✓</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>59.5'</u></p> <p>Standard Round of Beam = $\frac{B \times 12}{50} =$ <u>14.28"</u></p> <p>Ship's Round of Beam = <u>14.57"</u></p> <p>Difference <u>Excess .29"</u></p> <p>Restricted to</p> <p>Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.29}{4} \times .6034 = -.04"$</p>
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	<u>97.02'</u>	<u>97.02'</u>	<u>7.75'</u>	✓	<u>97.02'</u>	
" overhang ...	<u>5.0'</u>	<u>2.50'</u>			<u>2.50'</u>	
R.Q.D. enclosed ...						
" overhang ...						
Bridge enclosed...	<u>37.07'</u>	<u>37.07'</u>	<u>7.75'</u>	✓	<u>37.07'</u>	
" overhang aft ...						
" overhang forward	<u>45.82'</u>	<u>45.82'</u>	<u>7.5'</u>	✓	<u>45.82'</u>	
Fore enclosed <u>Side from 10</u> <u>equi...</u>	<u>39.95'</u>	<u>39.95'</u>				
" overhang ...	<u>7.42'</u>					
Trunk aft ...						
" forward ...						
Tonnage opening aft ...						
" " forward						
Total ...	<u>184.91'</u>	<u>182.41'</u>			<u>182.41'</u>	

Standard Height of Superstructure <u>7.50'</u>	
" " R.Q.D. <u>✓</u>	
Deduction for complete superstructure <u>42.00"</u>	
Percentage covered $\frac{S}{L} =$ <u>40.20%</u> ✓	
" " $\frac{S_1}{L} =$ <u>39.66%</u> ✓	
" " $\frac{E}{L} =$ <u>39.66%</u> ✓	
Percentage from Table, <u>Line A. Tanker</u> <u>30.66%</u> ✓	
(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 = <u>42.00</u> × <u>.3066</u> = <u>- 12.88"</u> ✓	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	<u>56.00</u>	1		<u>56.00</u>	<u>43.9"</u>	<u>43.90</u>	1		<u>43.90</u>	✓
$\frac{1}{2}$ L from A.P. ...	<u>24.92</u>	4		<u>99.68</u>	<u>10.3"</u>	<u>10.30</u>	4		<u>41.20</u>	✓
$\frac{3}{8}$ L " ...	<u>6.16</u>	2		<u>12.32</u>	<u>0</u>	<u>0</u>	2		<u>0</u>	✓
Amidships ...	<u>✓</u>	4		<u>✓</u>	<u>0</u>	<u>✓</u>	4		<u>✓</u>	✓
$\frac{3}{8}$ L from F.P. ...	<u>12.32</u>	2		<u>24.64</u>	<u>1.3"</u>	<u>1.30</u>	2		<u>2.60</u>	✓
$\frac{1}{2}$ L " ...	<u>49.84</u>	4		<u>199.36</u>	<u>39.8"</u>	<u>39.80</u>	4		<u>159.20</u>	✓
F.P. ...	<u>112.00</u>	1		<u>112.00</u>	<u>92.9"</u>	<u>92.90</u>	1		<u>92.90</u>	✓
Total ...				<u>504.00</u>					<u>339.80</u>	✓

Mean actual sheer aft = Deficient

Mean standard sheer aft = Deficient

Mean actual sheer forward = Deficient

Mean standard sheer forward = Deficient

Length of enclosed superstructure forward of amidships = Deficient

" " aft of " = Deficient

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{164.20}{18} \left(.75 - \frac{.201}{.75} \right) = + 5.01$

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.

Depth to Freeboard Deck = 34.64

Summer freeboard = 7.42

Moulded draught (d) = 27.22

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 6.80" = 6 $\frac{3}{4}$ "

Addition for Winter North Atlantic Freeboard (if required) = 4 $\frac{1}{2}$ " + 6 $\frac{3}{4}$ " = 11 $\frac{1}{4}$ "

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$ 17183

Tons per inch immersion at summer load water line

T = 57.53

Deduction = $\frac{\Delta}{40T}$ inches

= 7.47"

= 7 $\frac{1}{2}$ "

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$\frac{.806 + .68}{1.36} = \frac{1.486}{1.36}$

Depth Correction ... 11.91

Deduction for superstructures ... 12.88

Sheer correction ... 5.01

Round of Beam correction04

Correction for Thickness of Deck amidships ... ✓

Other corrections, scantlings, etc. ... ✓

Summer Freeboard = 87.77 88.90

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

Tropical Fresh Water Line above Centre of Disc ...	<u>14$\frac{1}{4}$" = 361"</u>	Tropical Fresh Water Freeboard ...	<u>6'-2$\frac{3}{4}$" = 1900"</u>
Fresh Water Line " " ...	<u>7$\frac{1}{2}$" = 190"</u>	Fresh Water " " ...	<u>6'-9$\frac{1}{2}$" = 2071"</u>
Tropical Line " " ...	<u>6$\frac{3}{4}$" = 171"</u>	Tropical " " ...	<u>6'-10$\frac{1}{4}$" = 2090"</u>
Winter Line below " " ...	<u>6$\frac{3}{4}$" = 171"</u>	Winter " " ...	<u>7'-11$\frac{3}{4}$" = 2432"</u>
Winter North Atlantic Line " " ...	<u>11$\frac{1}{4}$" = 286"</u>	Winter North Atlantic " " ...	<u>8'-4$\frac{1}{4}$" = 2547"</u>

7 JUN 1935

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Description of Hatchway	Dimensions of Hatchway	Height above Deck	Thickness	Stiffeners	Brackets, Stays	Number	Spacing	Unsupp'd Lengths	Scantling and Sketch	Bearing Surface
COAMINGS	6' x 4'	1 1/2"	3/4"	3/4"	3/4"	120 mm	170 mm	880 mm	380 mm	240 mm
HATCH BEAMS										
FORE AND AFTERS										
HATCH COVERS										
Spacing of Cleats										
Number of Tarpaulins										

Particulars of fiddle, funnel and ventilator coamings:—
 Fiddle openings on top of eng & donkey boiler casing fitted with hinged steel covers.
 Ventilator openings 20" with one hinged steel door manipulated from outside.
 Ventilators: Diam 621 mm Hgt 915 mm, 1850 mm & 2550 mm (Hinged).

Particulars of Flush Bunker Scuttles:—
 none fitted.

Particulars of Companionways:—
 Poop space entrance at aft end of gallery casing.
 Openings 1600 mm x 635 mm Hgt of sill 460 mm.
 48 mm thick teak doors capable of being manipulated from both sides.

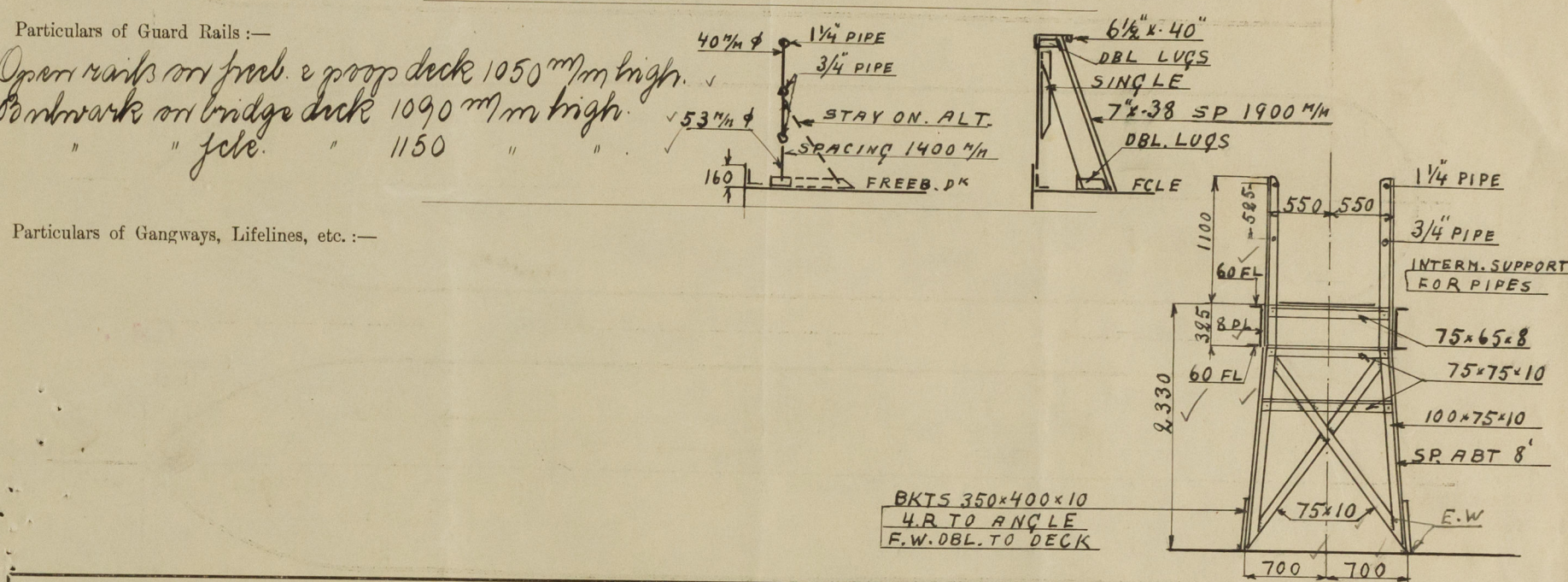
Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—
 Poop deck: Diam 6" to 18" bricken 30" to 40" height 36" brasses 30" in height.
 Trunk deck: 4" brasses for cofferdams. Hgt 36".
 Foredeck: Diam 6" to 18" bricken 30" to 40" height 36" brasses 36" in height.
 Bridge deck: brasses 30" in height.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—
 Poop deck: brasses to A.P.T. bottom tanks cofferdams & O.F. bunkers 30" high.
 Foredeck: brasses to fore peak tank and deep tank 30" high.
 All provided with means for closing.

Particulars of Gangway Cargo and Coaling Ports:—
 none.

Particulars of Scuppers and Sanitary Discharge Pipes:—
 No scuppers below upper deck.
 Sanitary discharge pipes from poop deck trunks and from poop space led overboard about 1" above 2nd deck. From accommodations on bridge deck about 1" above foreboard deck.
 All discharge ends are fitted with storm valves.
 Overboard scupper from the poop space has been fitted with non-deflatable screwed plug as the usual one.

Particulars of Side Scuttles:—
 All side scuttles are fitted with hinged inside deadlights.



Particulars of Gangways, Lifelines, etc.:—

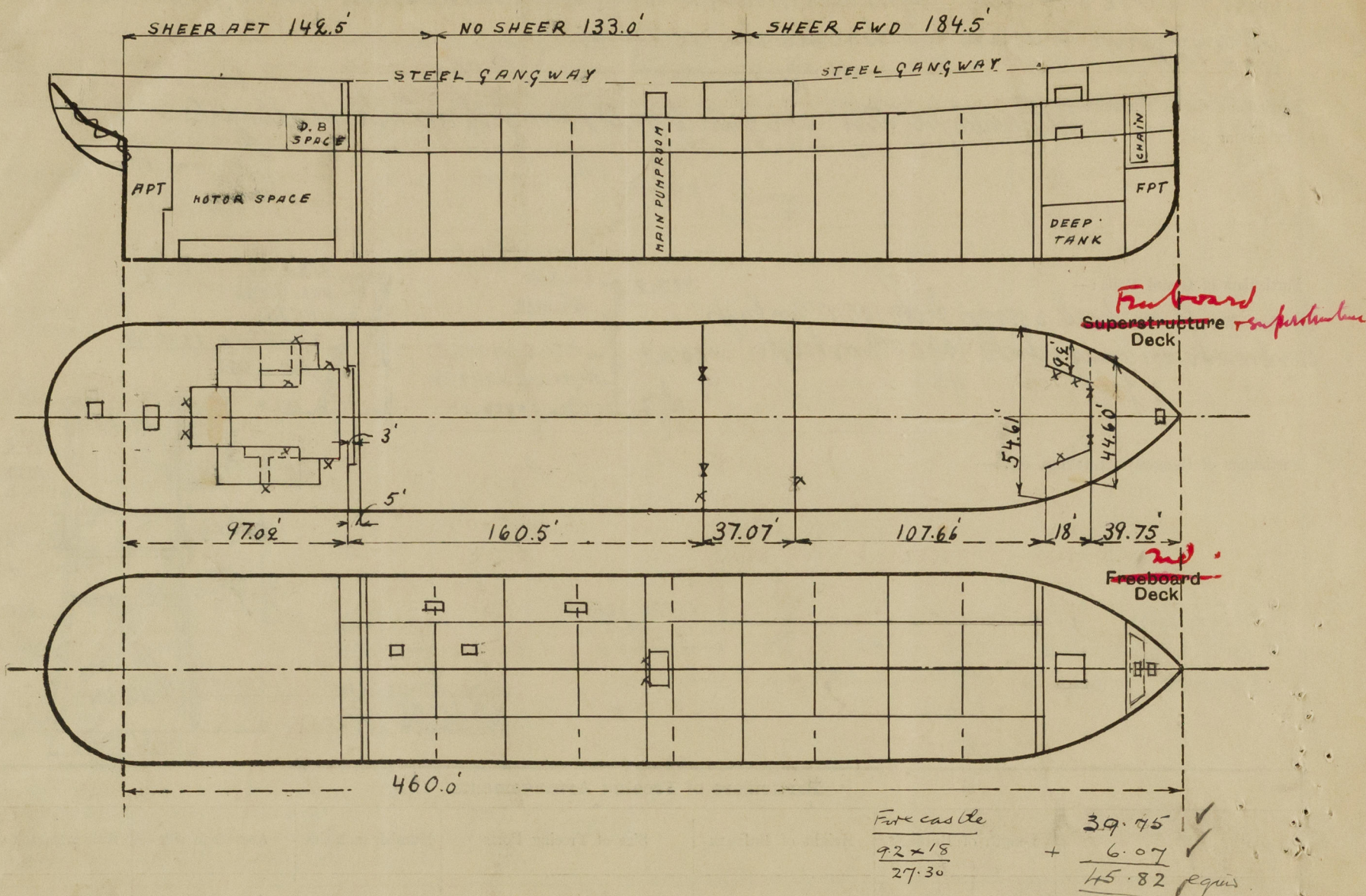
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well			Open Rails on foreboard deck			
Forward Well						

State position of each freeing port (F. and A. position and height above deck edge).
 After Well:—
 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	5' 7 1/2" x 90" x 11"	47"	250 x 90 x 13.5"	600-900	Long B'ings	None	✓	7'-9"	
Raised Quarter Deck Bulkhead					Long B'ings				
Bridge, After Bulkhead	90 x 90 x 10"	34"	130 x 65 x 8"	850-967	None	1245 x 940	600	7'-9"	
Bridge, Forward Bulkhead	90 x 90 x 12"	47"	250 x 90 x 11"	850-967	Long B'ings	1780 x 635	460	7'-9"	
Forecastle Bulkhead	65 x 75 x 9"	30-34	130 x 65 x 8"		Long B'ings	1525 x 877	560	7'-6"	
Trunk, Aft					Long B'ings	1245 x 940	460		
Trunk, Forward						1530 x 625			
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	75 x 90 x 11"	32"-34"	90 x 75 x 9"	600-660	None	1440 x 845	610	7'-9"	
Exposed Machinery Casings on Superstructure Decks	130 x 65 x 8"	32	90 x 65 x 8"	600	B to P.D. long	1600 x 635	410	10'-6"	
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	Hinged H.T. steel doors capable of being manipulated from both sides.
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	3 shifting boards in riveted channels one hinged steel door manip. from both sides.
Bridge, Forward Bulkhead	One hinged H.T. steel door, capable of being manipulated from both sides.
Forecastle Bulkhead	3 shifting boards in riveted channels hinged steel doors manip. from both sides.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	Hinged H.T. steel doors capable of being manipulated from both sides.
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships	48 mm thick teak doors capable of being manipulated from both sides.

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. Bracketless system.
 Rack bars fitted at ends of longitudinals in all tanks and in pump room.
 Displacement in salt water 2 tons/inch immersion at 27'-0" mld. draught = 17025 tons & 57.46 T/inch.
 " " " " " 27'-3" " = 17205 " 57.53 "
 " " " " " 27'-6" " = 17385 " 57.60 "

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Builder's name and yard number Hockmors Mte. Verkestds Aktieb. Yard No. 182.

Names of sister ships ✓

Owners Akties. Lounsfjell, Oslo.

Fee £

Received by me



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