

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker  
having Forecastle on Shelterdeck.

Port of Survey Copenhagen.Date of Survey 25<sup>th</sup> August. 1931.Name of Surveyor V. J. J. Lydenius.

Particulars of Classification \* 100. A. 1.  
Shelterd. K. w. freeboard.  
carrying Petroleum in bulk.  
longitudinal framing.

(Type of Superstructures.)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<u>S/S "SCANDIA"</u>	<u>Danish.</u> <u>Nyborg.</u>	<u>✓</u>	<u>8548</u>	<u>1918-12.</u>

Moulded Dimensions: Length 463'-3" Breadth 60'-0" Depth 37'-2"  
Moulded displacement at moulded draught = 85 per cent. of moulded depth 20580 tons  
Coefficient of fineness for use with Tables .821.

Depth for Freeboard (D)

Moulded depth ... 37'-17"  
Stringer plate (.66") ... .055'  
Sheathing on exposed deck  
 $T \left( \frac{L-S}{L} \right) =$   
Depth for Freeboard (D) = 37'-22"

Depth correction

(a) Where D is greater than Table depth  
(D - Table depth) R =  
 $(37.22 - 30.85) \times 3 = 19.11$

(b) Where D is less than Table depth (if allowed)  
(Table depth - D) R =

If restricted by superstructures

Round of Beam correction

Moulded Breadth (B) 60'-0"  
Standard Round of Beam =  $\frac{B \times 12}{50} = 14.40$   
Ship's Round of Beam = 12'-00  
Difference 2.40  
Restricted to  
Correction =  $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{2.40}{4} \times .8896 = +.53$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	✓				
" overhang ...	✓				
R.Q.D. enclosed ...	✓				
" overhang ...	✓				
Bridge enclosed ...	✓				
" overhang aft ...	✓				
" overhang forward ...	✓				
Forecastle enclosed ...	<u>50'-11"</u>	<u>50.92</u>	<u>7'-0"</u>	$\times \frac{7.0}{7.5} =$	<u>47.52</u>
" overhang ...	<u>0'-4"</u>	<u>.17</u>			<u>.16</u>
Trunk aft ...	✓				
" forward ...	✓				
Tonnage opening aft ...	✓				
" forward ...	✓				
Total ...	<u>51'-3"</u>	<u>51.09</u>			<u>47.68</u>

Standard Height of Superstructure 7.50  
" " R.Q.D. ✓  
Deduction for complete superstructure 42.00  
Percentage covered  $\frac{S}{L} = 11.082$   
" "  $\frac{S_1}{L} = 11.042$   
" "  $\frac{E}{L} = 10.307$   
Percentage from Table, Line A. ✓  
(corrected for absence of forecastle (if required))  
Percentage from Table, Line B. Tanker 7.22%  
(corrected for absence of forecastle (if required))  
Interpolation for bridge less than 2L (if required) ✓  
Deduction = 42.00 × .0722 = -3.03

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<u>56.27</u>	1		<u>56.27</u>	<u>29"</u>	<u>29.00</u>	1		<u>29.00</u>
$\frac{1}{4}L$ from A.P. ...	<u>25.04</u>	4		<u>100.16</u>	<u>23"</u>	<u>2.75</u>	4		<u>11.00</u>
$\frac{2}{4}L$ " ...	<u>6.19</u>	2		<u>12.38</u>	<u>0</u>	<u>-</u>	2		<u>-</u>
Amidships ...	<u>-</u>	4		<u>-</u>	<u>0</u>	<u>-</u>	4		<u>-</u>
$\frac{3}{4}L$ from F.P. ...	<u>12.38</u>	2		<u>24.76</u>	<u>0</u>	<u>-</u>	2		<u>-</u>
$\frac{1}{4}L$ " ...	<u>50.09</u>	4		<u>200.36</u>	<u>9 3/4"</u>	<u>9.75</u>	4		<u>39.00</u>
F.P. ...	<u>112.55</u>	1		<u>112.55</u>	<u>78"</u>	<u>78.00</u>	1		<u>78.00</u>
Total ...				<u>506.48</u>					<u>157.00</u>

Mean actual sheer aft = Deficient  
Mean standard sheer aft = Defective

Mean actual sheer forward = Deficient  
Mean standard sheer forward = Defective

Length of enclosed superstructure forward of amidships = Tanker: does not apply  
" " aft of " = ✓

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{349.48}{18} \left( .75 - .0584 \right) = +13.49$   
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 = 37'-16"  
Summer freeboard = 9'-72  
Moulded draught (d) = 27'-50

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = 6'-87  
Addition for Winter North Atlantic Freeboard (if required) = 4'-63

Deduction for Fresh Water.

Displacement in salt water at summer load water line  
 $\Delta =$   
Tons per inch immersion at summer load water line  
 $T =$   
Deduction =  $\frac{\Delta}{40T}$  inches = ✓

TABULAR FREEBOARD corrected for Flush Deck (if required)  
Correction for coefficient  $\times \frac{.821 + .68}{1.36}$

	+	-
Depth Correction ...	<u>19.11</u>	<u>-</u>
Deduction for superstructures ...	<u>-</u>	<u>3.03</u>
Sheer correction ...	<u>13.49</u>	<u>-</u>
Round of Beam correction ...	<u>.53</u>	<u>-</u>
Correction for Thickness of Deck amidships ...	<u>-</u>	<u>-</u>
Other corrections, scantlings, etc. ...	<u>-</u>	<u>-</u>
	<u>33.13</u>	<u>3.03</u>

Summer Freeboard = 116.62

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Steel, Deck:— 116.62" = 2.962 metres  
Tropical Fresh Water Line above Centre of Disc 13.74" = 349 mm  
Fresh Water Line " " .687" = 174 "  
Tropical Line " " .687" = 174 "  
Winter Line below " " .687" = 174 "  
Winter North Atlantic Line " " 11.50" = 292 "  
Tropical Fresh Water Freeboard ... 102.88" = 2.613 "  
Fresh Water " " 109.75" = 2.788 "  
Tropical " " 109.75" = 2.788 "  
Winter " " 123.49" = 3.136 "  
Winter North Atlantic " " 128.12" = 3.254 "



# PARTICULARS OF PROTECTION TO OPENINGS, ET.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway			Oilright hatches to main cargo tanks.	Oilright hatches to summer tanks & tween deck.	Watertight hatch to hold forward.	Oilright hatches to Bunkers aft.			
Dimensions of Hatchway			6'-0" x 4'-0"	6'-0" x 3'-0"	8'-4" x 12'-0"	6'-0" x 4'-0"			
COAMINGS	Height above Deck	...	31"	31"	31"	7"			
	Thickness	Sides	.50"	.50"	.50"	.50"			
		Ends	.50"	.50"	.50"	.50"			
	Stiffeners	...	None.	None.	17" x 17" x .50" (two each end)	None.			
	Brackets, Stays	...	None.	None.	brackets one on side	None.			
HATCH BEAMS	Number	...							
	Spacing	...							
	Scantling and Sketch	...	None.	None.	None.	None.			
	Bearing Surface	...							
FORE AND AFTERS	Number	...							
	Spacing	...							
	Unsupported Lengths	...							
	Scantling* and Sketch	...	None.	None.	None.	None.			
	Bearing Surface	...							
HATCH COVERS	Material	...	Steel	Steel	Steel cover in two halves	Steel cover			
	Thickness	...	.50"	.50"	.50"	.50"			
	How fitted	...	hinged, oiltight	hinged, oiltight	hinged and watertight	hinged, oiltight			
	Bearing Surface	...							
Spacing of Cleats			18" screw down	18" screw down	24" screw down	18" screw down			
Number of Tarpaulins			None.	None.	None.	None.			
<p>*Are wood fore and afters steel shod at all bearing surfaces? None fitted.</p> <p>Are battens and wedges efficient and in good condition? None fitted.</p> <p>Are tarpaulins in good condition and in accordance with rule requirements? None fitted.</p> <p>Are lashings provided in accordance with rule requirements? None fitted.</p>									

Particulars of fiddle, funnel and ventilator coamings :-

Fiddle casing:- Coaming 15" x 40", plating 32", stiffeners 4" x 3" x 34" sp. 24" apart. Door openings fitted with steel doors to close watertight, strongly constructed and capable of being closed and secured from both sides. Sill of doorway 21".

All openings in fiddle and funnel casing are fitted with strongly built, hinged, permanently attached steel covers.

One (1/155) Vent. to 'Tween deck. Diam. 18". Coaming height 36" thickness .50". placed as shown on sketch. All vents are fitted with permanently attached, hinged steel covers to close watertight.

Two (1/155) - pump room - 18" - 36" - .50"

Two (1/155) - each cofferdam - 9" - 36" - .40"

Particulars of Flush Bunker Scuttles :-

None fitted. ✓

Particulars of Companionways :-

Pump room companionway. Coaming pl. 15" x 40", plates 40", stiff 4" x 3" x 50" spaced 24" apart, 2 taking foot and top angle. Door opening 5' x 2', sill 18". Watertight door capable of being closed and secured from both sides. [Door opening at after side].

Two strong companionways of steel secured to deck by riveted angle bars, plating 38", fitted aft of bridge house (pos) and one fitted forward of casing (pos) door openings 5' x 2', sill 18". Watertight door capable of being closed and secured from both sides, both leading to upper 'tween deck (p.s).

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

Fore deck. Two (1/155) Vent. to 'Tween deck. Diam 10". Coaming height 30", thickness .40". All vents are fitted with permanently attached, hinged steel covers to close watertight.

One " " Fore peak " 10" " 30" " .40"

" " Tween deck " 17" " 30" " .40"

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

6" Swanneck to deep tank forward, 24" inches from deck to opening.

3" " double bottom tank under deep tank aft, 7'-0" from deck to opening, air pipe of strong construction and well stiffened.

Wood plugs, not permanently attached, and canvas covers are supplied for all air pipes.

Particulars of Gangway Cargo and Coaling Ports :- None fitted. ✓



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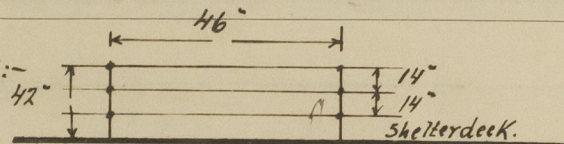
Particulars of Scuppers and Sanitary Discharge Pipes — Each separate discharge is fitted with an automatic non-return valve next to the ship's side and an upper automatic non-return valve fitted in an always accessible position for examination. Material: Cast Steel.

Particulars of Side Scuttles:

All sidelights are fitted with permanently attached, efficiently constructed, inside deadlights.

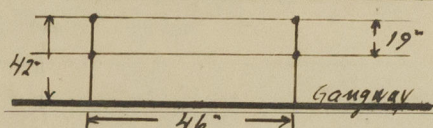
Particulars of Guard Rails:—

On shelterdeck:—



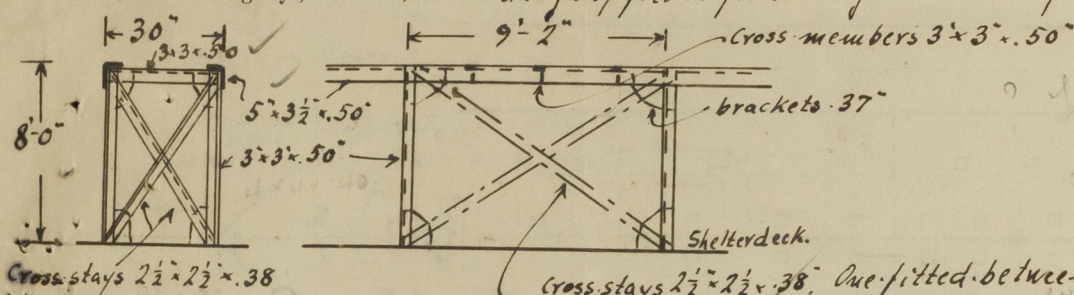
Open rails fitted throughout on shelterdeck.

On gangway:—



Particulars of Gangways, Lifelines, etc.:—

Gangway fitted from bridge house at ship's centerline to Fiddley casing aft. Crew berthed aft and amidships only.



Cross stays 2 1/2 x 2 1/2 x 38. One fitted between bridge house and pumproom entrance. Two ~ pumproom entrance and fiddley casing aft.

#### 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 ...	✓	✓	✓	✓	✓	✓

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:—

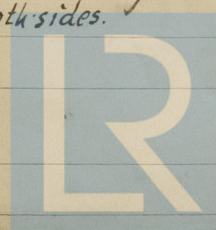
Additional area where sheer is less than standard.

#### 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 ...	✓							
Raised Quarter Deck Bulkhead ...	✓							
Bridge, After Bulkhead ...	✓							
Bridge, Forward Bulkhead ...	✓							
Forecastle Bulkhead ...	15" x 40"	36"	6" x 3" x 42"	30" apart	bracketed top and bottom	5'0" x 4'0"	15"	7'0"
Trunk, Aft ...	✓							
Trunk, Forward ...	✓							
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	15" x 40"	32"	4" x 3" x 34"	24" apart	conn. to beams top & bottom	4'9" x 2'0"	21"	8'0"
Exposed Machinery Casings on Superstructure Decks ...	✓							
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 ...	✓
Bridge, Forward Bulkhead ...	✓
Forecastle Bulkhead ...	Steel plates fitted with hook bolts spaced 20" apart. Capable of being manipulated from outside only.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	Strong steel doors to close watertight, 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 ...	✓

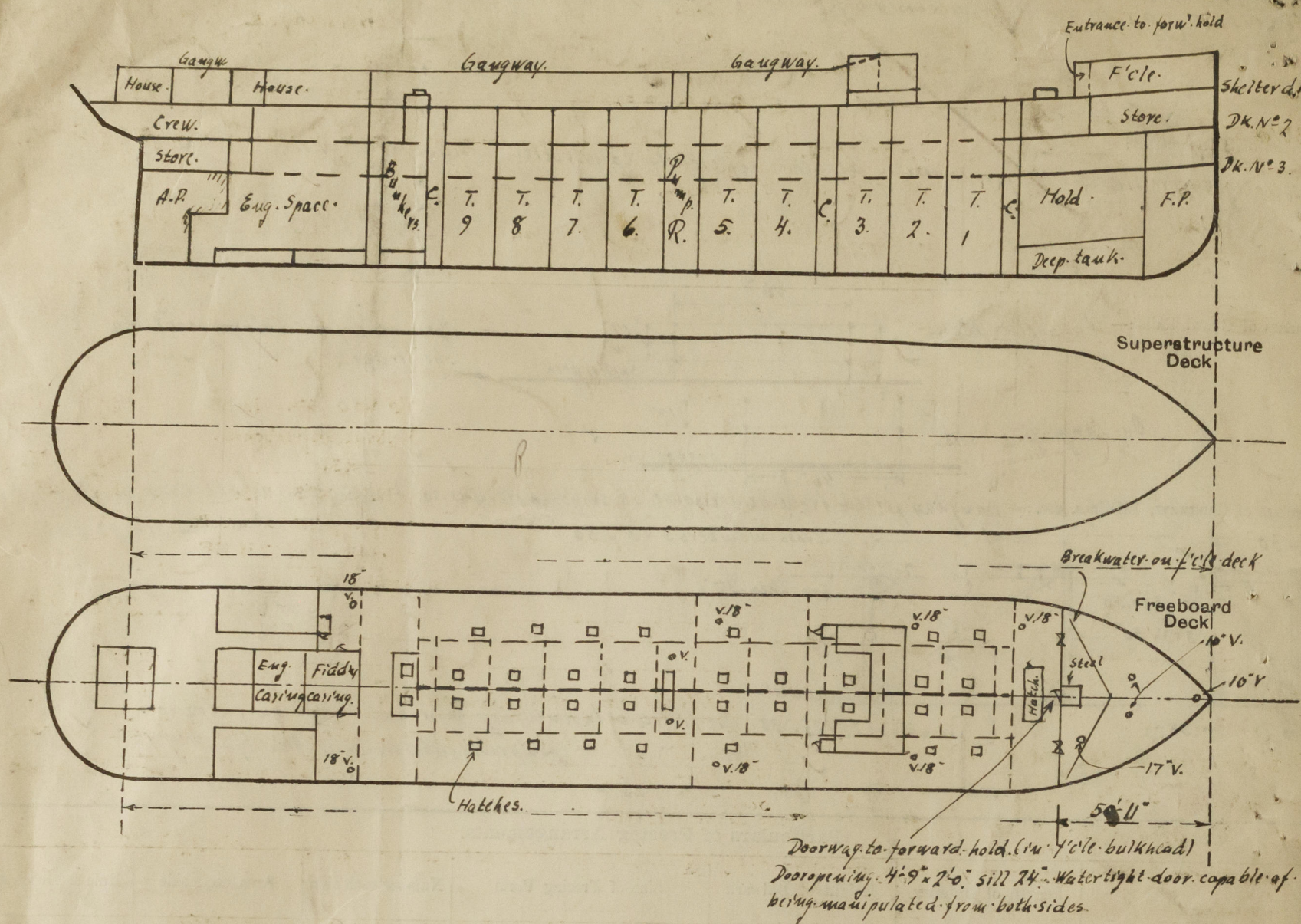


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Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shown on the following sketches:—



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

Vessel constructed for carrying petroleum in bulk. — Longitudinal framing — Webframes.

Builder's name and yard number *Newport News Shipbuilding and Drydock Co.*

Names of sister ships

Owners

*Det. Danske Petroleum Aktieselskab, Copenhagen*

Fee £

Received by me

SUMMARY

Renew

Removal

Faire

PRESENT C

Decks

Caulking of

Coamings

Beams & Fast

Outside Plating

Breasthooks

Transoms

Frames

Reverse Frame

Longitudinals

Transverses

Floors

Keelsons

Stringers

Inner Bottom Pl

General

St

this sur

survey. I

This vessel

shell plating

Conven

Survey Fee (per

Special Damage or

(per Sec. 21

Travelling Expense

Second Surveyor's

Committee

Character



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