

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

 Index. No. 33828
 (For London Office only.)

 Computation of Freeboard for Steamer, Sailing Ship, Tanker
 having Prop and Forecastle.

 Port of Survey Copenhagen

 Date of Survey 30 November 1931.

 Name of Surveyor G. Hemmings

 Particulars of Classification Contemplated
+100A1 Carrying Petroleum in Bulk.

 (Type of Superstructures.)
 Ship's Name PAN GOTHIA
 Nationality and Port of Registry Swedish
 Official Number 10400
 Gross Tonnage approx 10400
 Date of Build 1931
 Moulded Dimensions: Length 487'-6" Breadth 64'-0" Depth 38'-2"
 Moulded displacement 23565 tons
 Coefficient of fineness for use with Tables .815

Depth for Freeboard (D)	Depth correction	Round of Beam correction
ed depth <u>38.16'</u>	(a) Where D is greater than Table depth (D-Table depth) R = <u>✓</u>	Moulded Breadth (B) <u>64.0'</u>
er plate <u>.06'</u>	(38.22 - 32.50) * 3 = + 17.16	Standard Round of Beam = $\frac{B \times 12}{50} = 15.36'$ ✓
ing on exposed deck ($\frac{L-S}{L}$) = <u>✓</u>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <u>✓</u>	Ship's Round of Beam = $400 \frac{74}{100} = 15.75'$ ✓
Depth for Freeboard (D) = <u>38.22</u>	If restricted by superstructures <u>✓</u>	Difference <u>.39'</u> ✓
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L}) = \frac{.39}{4} (1 - .30) = -.07$ ✓

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
op enclosed	<u>103.10'</u>	<u>103.10'</u>	<u>8'-0"</u>	<u>✓</u>	<u>103.10'</u>	Standard Height of Superstructure <u>4.50'</u>
overhang	<u>✓</u>					" " R.Q.D. <u>✓</u>
D. enclosed						Deduction for complete superstructure <u>42.00'</u>
overhang						Percentage covered $\frac{S}{L} = 30.06'$ ✓
dge enclosed... ..						" " $\frac{S_1}{L} = 30.06'$ ✓
overhang aft						" " $\frac{E}{L} = 30.06'$ ✓
overhang forward	<u>43.42'</u>	<u>43.42'</u>	<u>8'-0"</u>	<u>✓</u>	<u>43.42'</u>	Percentage from Table, Line A. Tanker <u>21.06'</u> ✓
e enclosed <u>equivalent</u>	<u>52.2'</u>	<u>43.42'</u>	<u>8'-0"</u>	<u>✓</u>	<u>43.42'</u>	(corrected for absence of forecastle (if required))
overhang						Percentage from Table, Line B.
nk aft						(corrected for absence of forecastle (if required))
forward						Interpolation for bridge less than 2L (if required) <u>does not apply</u>
nage opening aft ...						Deduction = $42.00 \times .2106 = -8.84'$ ✓
" forward						
Total	<u>146.52'</u>	<u>146.52'</u>			<u>146.52'</u>	

SHEER CORRECTION.

Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
... <u>58.75</u>	1		<u>58.75</u>	<u>965$\frac{74}{100}$</u>	<u>37.99</u>	1		<u>37.99</u>	Mean actual sheer aft = <u>defective</u>
P. ... <u>26.14</u>	4		<u>104.56</u>	<u>111</u>	<u>4.37</u>	4		<u>17.48</u>	Mean actual sheer forward = <u>defective</u>
... <u>6.46</u>	2		<u>12.92</u>	<u>0</u>	<u>-</u>	2		<u>-</u>	Mean standard sheer forward = <u>defective</u>
... <u>-</u>	4		<u>-</u>	<u>0</u>	<u>-</u>	4		<u>-</u>	Length of enclosed superstructure forward of amidships =
P. ... <u>12.92</u>	2		<u>25.84</u>	<u>0</u>	<u>-</u>	2		<u>-</u>	" " aft of " =
... <u>52.29</u>	4		<u>209.16</u>	<u>473</u>	<u>18.62</u>	4		<u>74.48</u>	Tanker - does not apply
... <u>117.50</u>	1		<u>117.50</u>	<u>1930</u>	<u>75.98</u>	1		<u>75.98</u>	
... <u>4.06</u>			<u>528.73</u>					<u>205.93</u>	
Mean = $\frac{\text{Difference between sums of products}}{18} = \frac{322.8}{18} = 17.93$ (75 - 1503) = + 10.75									
ted on account of midship superstructure. <u>Tanker</u>									
If limited to maximum allowance of 1 $\frac{1}{2}$ ins. per 100 ft.									

for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
for Winter and Winter North Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{.815 \times 68}{1.36} = \frac{1.495}{1.36}$
pth to Freeboard Deck = <u>38.22'</u>	$\Delta = \text{✓ } 20887$	Depth Correction <u>17.16'</u>
mer freeboard = <u>9.32'</u>	Tons per inch immersion at summer load water line	Deduction for superstructures <u>8.84'</u>
Moulded draught (d) = <u>28.90'</u>	$T = \text{✓ } 65.47$	Sheer correction <u>10.75'</u>
for Tropical freeboard and addition for	Deduction = $\frac{\Delta}{40T}$ inches	Round of Beam correction <u>.07'</u>
freeboard = $\frac{d}{4}$ inches = <u>7.22'</u>	= <u>7.97</u>	Correction for Thickness of Deck amidships <u>-</u>
or Winter North Atlantic Freeboard (if	% of moulded depth: 75% 85% 95%	Other corrections, scantlings, etc. <u>-</u>
d = <u>4.87</u>	<u>20670 23690 26740</u>	<u>27.91 8.91 + 19.00</u>
	<u>✓ 65.4 66.4 67.2</u>	Summer Freeboard = <u>111.88</u>

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:—		
Tropical Fresh Water Line above Centre of Disc <u>15.19' = 386 m</u>	Tropical Fresh Water Freeboard <u>96.69' = 2.456 m</u>	
Fresh Water Line " " <u>7.97' = 202 m</u>	Fresh Water " " <u>103.91' = 2.640 m</u>	
Tropical Line " " <u>7.22' = 183 m</u>	Tropical " " <u>104.66' = 2.659 m</u>	
Winter Line below " " <u>7.22' = 183 m</u>	Winter " " <u>119.10' = 3.025 m</u>	
Winter North Atlantic Line " " <u>12.09' = 307 m</u>	Winter North Atlantic " " <u>123.95' = 3.149 m</u>	

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway									
Dimensions of Hatchway									
COAMINGS	Height above Deck								
	Thickness	Sides							
	Stiffeners	Ends							
	Brackets, Stays								
HATCH BEAMS	Number								
	Spacing								
	Scantling and Sketch								
Bearing Surface		All hatchways w.t. including hatch for dry cargo hold							
FORE AND AFTERS	Number								
	Spacing								
	Unsupported Lengths								
	Scantling* and Sketch								
Bearing Surface		Steel covers - should be stated							
HATCH COVERS	Material								
	Thickness								
	How fitted								
	Bearing Surface								
Spacing of Cleats									
Number of Tarpaulins									

*Are wood fore and afters steel shod at all bearing surfaces?
Are battens and wedges efficient and in good condition?
Are tarpaulins in good condition and in accordance with rule requirements?
Are lashings provided in accordance with rule requirements?

Particulars of fiddle, funnel and ventilator coamings:—
2 fiddle on top of casing 1800 x 600 with steel covers 5 1/4" hinged and secured.

Give particulars ventilator coamings on casing:
diam, height thickness, means of closing

Particulars of Flush Bunker Scuttles:—

Particulars of Companionways:—

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

See plan now forwarded.

Roof deck { 8 dia x 30 36" high
12" diam x 34 36" high
16" " x 38 " "
Fore deck 12" x 34 " "
10" x 34 " "

Casing Top
To BR 27" dia x 28 8 1/4" high (X)
To ER 24" " x 24 8 1/2" "
On freeboard dk To fore hold 12" x 34 - 36" high
" P. R. 36" x 40 - Derruck post. State means of closing

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

Roof deck: 2, 4" to wing tanks 4, 3" to dbl bottom tanks 2, 2" to ditto 2, 3" and 2, 2" to after peak
Freeboard deck: 4 to cofferdams 6" pipes should be 36" high
Forecastle deck 2, 4" and 2, 3" to fore peak
All air pipes 600 1/4" above deck are goose necks no means of closing

Particulars of Gangway Cargo and Coaling Ports:—



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Particulars of Scuppers and Sanitary Discharge Pipes —

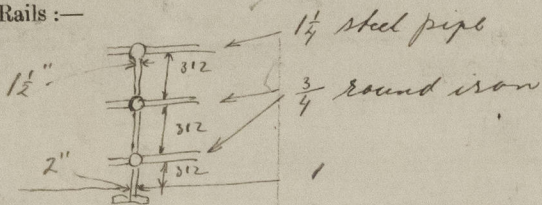
All discharges from poop 9400 mm above base line fitted with m.e. valves
bridge house 8500 " " " " " "

State material: This must be other than cast iron

Particulars of Side Scuttles:

None below freeboard deck. Are permanently attached deadlight filter.
Poop & forecastle side lights

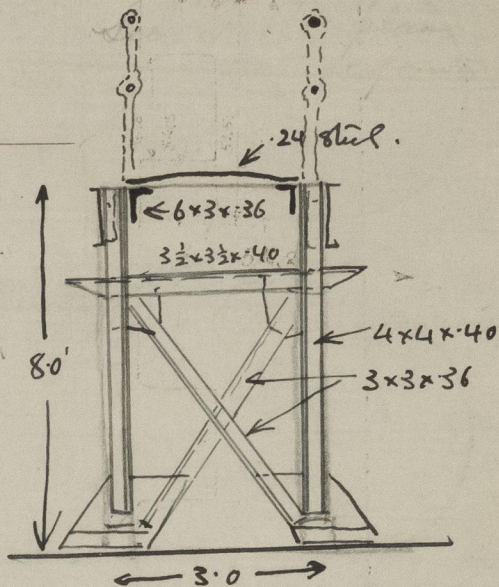
Particulars of Guard Rails:—



Forecastle & Poop
& air wells.

Particulars of Gangways, Lifelines, etc.:—

See plan now forwarded.
Gangway extends between poop & forecastle.



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	all fore and aft.			
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.

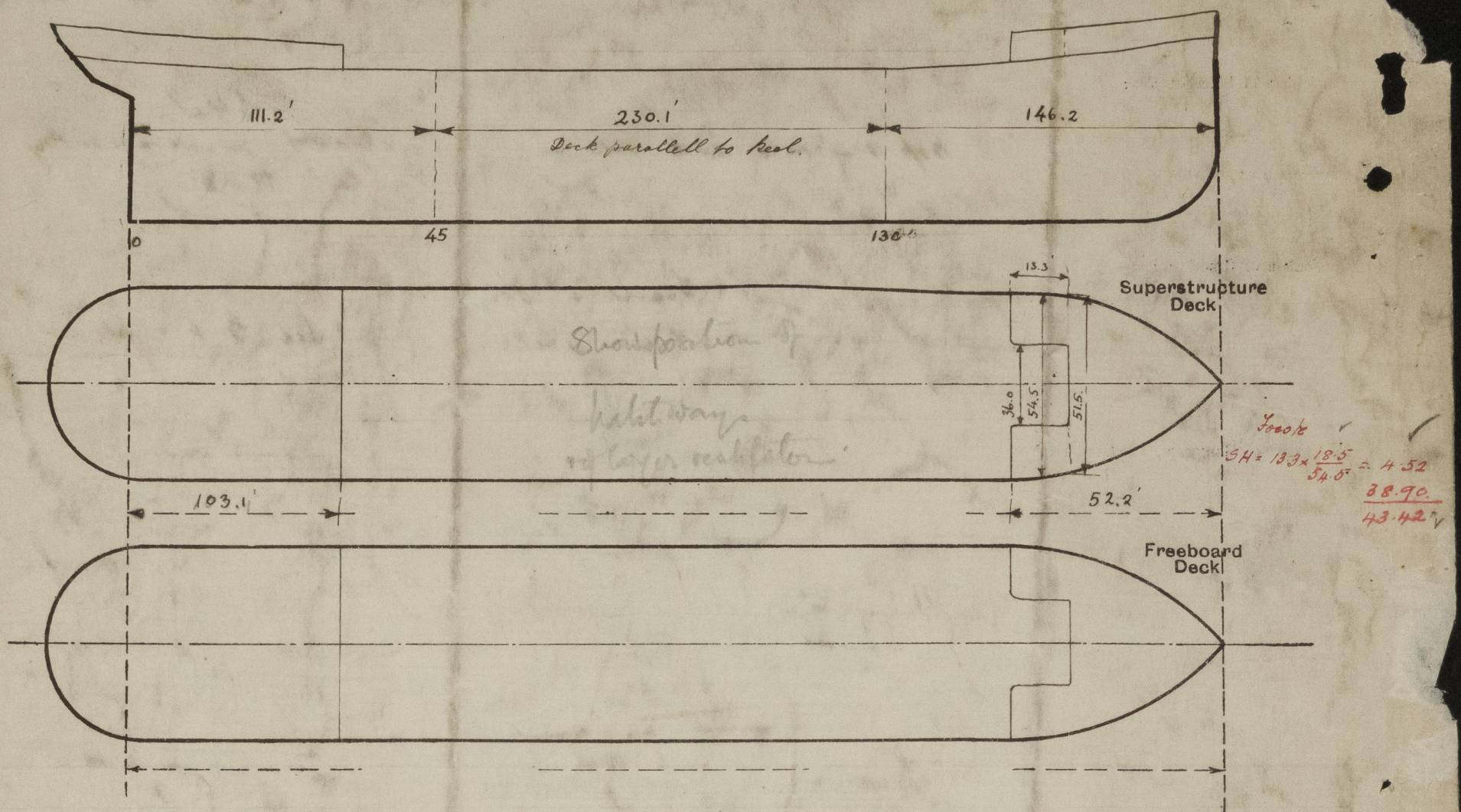
	Coaming M/M	Plating	Stiffeners M/M	Spacing M/M	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ...	200x90x10L	10 M/M	250x90x11L	770	Lugs ✓	None ✓	✓	8'-0"
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead ...								
Bridge, Forward Bulkhead ...								
Forecastle Bulkhead ...	✓	7.5 M/M	75x90x9	665-780	None	1650x720 1500x950	460 550	8'-0"
Trunk, Aft ...								
Trunk, Forward ...								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks ...	✓	8.5 M/M	75x120x8L	825	Brackets top continuous bottom	✓	✓	4'-6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...								
Deckhouses on Flush Deck Ships ...	✓	9 M/M	75x300x9L	825	None ✓	1650x610	460	8'-0"

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

Poop Bulkhead ...	None
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead ...	
Bridge, Forward Bulkhead ...	
Forecastle Bulkhead ...	3 W.T. steel doors which can be manipulated either side and 2 tonnage openings with hook falls not passing through bulkhead plating spaced 340 mm.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	Steel door to engine room port and starboard which can be manipulated from either side and 2 steel doors to tween deck port and starboard which can be manipulated from either side. ✓
Exposed Machinery Casings on Superstructure Decks ...	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	
Deckhouses on Flush Deck Ships ...	W.T. steel door manipulated from both sides.

It is not available but will be to Conventions requirements.

Superstructure bulkheads, trunks, deckhouses, casing, 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:—

- ✓ Plans of Ventilators, Gangway and General Arrangements forwarded.
- ✓ Plans of Mid. Sec. & Profile and decks in the London Office.
- ✓ Freeboard Assignment under present rules see Sec. letter 24th 1931

Builder's name and yard number: *A.B. Götaverken No 459*

Names of sister ships

Owners: *Peder A.B. Alse*

Fee *kr. 390-*

Received by me

Not charged.



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