

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. **32872**
(For London Office only.)

26 JUL 1932

 Computation of Freeboard for ~~Steamer, Sailing Ship, Tanker~~
 having Pop, Bridge and F'le.
Port of Survey To be surveyed at Falmouth.Date of Survey about 29th July 1932.Name of Surveyor A. J. J. Lyderen - Götterburg.Particulars of Classification 100 A. 1.
Carrying Petroleum in bulk

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<u>M/V "POLLUX"</u>	<u>Swedish. Trelleborg.</u>	<u>7471.</u>	<u>8741.</u>	<u>1928-9</u>
Moulded Dimensions: Length <u>466'</u> Breadth <u>61.5'</u> Depth <u>36.25'</u>				
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>20255</u> tons				
Coefficient of fineness for use with Tables <u>.803</u>				

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	<u>36.25'</u>	(a) Where D is greater than Table depth (D - Table depth) R =	<u>36.31 - 31.07 = 5.24</u>	Moulded Breadth (B)	<u>61.5'</u>
Stringer plate (.68")	<u>.06</u>			Standard Round of Beam = $\frac{B \times 12}{50}$	<u>14.76</u>
Sheathing on exposed deck		(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	<u>15.50</u>
$T \left(\frac{L-S}{L} \right) =$				Difference	<u>Excess .74</u>
Depth for Freeboard (D) =	<u>36.31</u>	If restricted by superstructures	<u>/</u>	Restricted to	
				Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right)$	<u>$\frac{.74}{4} \times .6132 = -.11$</u>

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<u>97.25</u>	<u>97.25</u>	<u>7'-8"</u>	<u>+ wood</u>	<u>97.25</u>
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed...	<u>35.50</u>	<u>35.50</u>	<u>7'-8"</u>	<u>+ wood</u>	<u>35.50</u>
" overhang aft ...					
" overhang forward					
F'cle enclosed <u>Excess</u>	<u>47.50</u>	<u>47.50</u>	<u>7'-11"</u>		<u>47.50</u>
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward					
Total ...	<u>180.25</u>	<u>180.25</u>			<u>180.25</u>

Standard Height of Superstructure	<u>7.5'</u>
" " R.Q.D.	<u>42.00</u>
Deduction for complete superstructure	<u>42.00</u>
Percentage covered $\frac{S}{L} =$	<u>38.68%</u>
" " $\frac{S_1}{L} =$	<u>38.68%</u>
" " $\frac{E}{L} =$	<u>38.68%</u>
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	
Percentage from Table, Line B. <u>Sumner</u>	<u>29.68</u>
(corrected for absence of forecastle (if required))	
Interpolation for bridge less than 2L (if required)	
Deduction =	<u>42.00 x .2968 = 12.47</u>

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate <u>Plotted</u>	S	M	Product
A.P. ...	<u>56.60</u>	<u>1</u>		<u>56.60</u>	<u>41"</u>	<u>40.62</u>	<u>40.62</u>	<u>1</u>	<u>40.62</u>
$\frac{1}{2}L$ from A.P. ...	<u>25.19</u>	<u>4</u>		<u>100.76</u>	<u>6.5"</u>	<u>8.00</u>	<u>8.00</u>	<u>4</u>	<u>32.00</u>
$\frac{3}{4}L$ " ...	<u>6.73</u>	<u>2</u>		<u>12.46</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>0</u>
Amidships ...		<u>4</u>		<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>4</u>	<u>0</u>
$\frac{3}{4}L$ from F.P. ...	<u>12.45</u>	<u>2</u>		<u>24.90</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>0</u>
$\frac{1}{2}L$ " ...	<u>50.37</u>	<u>4</u>		<u>201.48</u>	<u>25.12"</u>	<u>18.00</u>	<u>18.00</u>	<u>4</u>	<u>72.00</u>
F.P. ...	<u>113.20</u>	<u>1</u>		<u>113.20</u>	<u>90.1"</u>	<u>90.06</u>	<u>90.06</u>	<u>1</u>	<u>90.06</u>
Total ...				<u>509.40</u>					<u>234.68</u>

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{274.72}{18} \left(.75 - \frac{1934}{2 \times 466} \right) = + 8.50$$

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	=	<u>36.31</u>
Summer freeboard	=	<u>8.17</u>
Moulded draught (d)	=	<u>28.14</u>

 Deduction for Tropical freeboard and addition for
 Winter freeboard = $\frac{d}{4}$ inches = 7.03 = 179
 Addition for Winter North Atlantic Freeboard (if required) = 4.66 = 118

Deduction for Fresh Water.

Displacement in salt water at summer load water line	<u>18425</u>
Tons per inch immersion at summer load water line	<u>59.75</u>
Deduction = $\frac{\Delta}{40T}$ inches	<u>7.71</u>
	<u>= 196</u>

 TABULAR FREEBOARD corrected for Flush Deck (if required)
 Correction for coefficient $\frac{.803 + .68}{1.36} = \frac{1.483}{1.36}$

	+	-
Depth Correction	<u>15.72</u>	
Deduction for superstructures		<u>12.47</u>
Sheer correction	<u>8.50</u>	
Round of Beam correction		<u>.11</u>
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc.		
	<u>24.22</u>	<u>12.58</u>
Summer Freeboard	<u>= 98.02</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>14.74</u> = <u>375</u>	Tropical Fresh Water Freeboard	<u>83.28</u> = <u>2115</u>
Fresh Water Line	<u>7.71</u> = <u>196</u>	Fresh Water	<u>90.31</u> = <u>2294</u>
Tropical Line	<u>7.03</u> = <u>179</u>	Tropical	<u>90.99</u> = <u>2311</u>
Winter Line below	<u>7.03</u> = <u>179</u>	Winter	<u>105.05</u> = <u>2669</u>
Winter North Atlantic Line	<u>11.69</u> = <u>297</u>	Winter North Atlantic	<u>109.71</u> = <u>2787</u>

LLOYD'S REGISTER

RECEIVED 4- AUG 1932

002109-002118-0212 '2

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway		Hatch to Form Hold	Pitchlight Hatches						
Dimensions of Hatchway		11'3" x 10'8"	Centre Tanks	Side Tanks	Cofferdams				
COAMINGS	Height above Deck	33"	39"	12"	39"				
	Thickness Sides	44"	40"	40"	40"				
	Thickness Ends	44"	40"	40"	40"				
	Stiffeners	180 x 85 x 10 Z	None	✓	40"				
	Brackets, Stays	1 off	75 x 100 x 10 Z inside	✓	None				
HATCH BEAMS	Number	None							
	Spacing								
	Scantling and Sketch								
Bearing Surface		Fitted	None fitted						
FORE AND AFTERS	Number	None							
	Spacing								
	Unsupported Lengths								
	Scantling and Sketch								
	Bearing Surface	Fitted	None fitted						
HATCH COVERS	Material	Steel	Steel						
	Thickness	50"	50"						
	How fitted	Hinged	Hinged						
	Bearing Surface	To close W.T.	To close W.T.						
Spacing of Cleats		with turnbuckles	with turnbuckles						
Number of Tarpaulins		Sp. 19 1/2 apart	Sp. 12" to 14" apart						

*Are wood fore and afters steel shod at all bearing surfaces? *None fitted.*
 Are battens and wedges efficient and in good condition? *Steel hatch covers to close W.T.*
 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:—

Fiddle openings fitted with hinged steel covers.

Vents to motor & boiler spaces on top of casing (9'0" high on poop deck).

Particulars of Flush Bunker Scuttles:— *None fitted.*

Particulars of Companionways:—

Access to crew's quarter aft through steel deck house having wood doors capable of being manipulated from both sides.

Particulars not available for pump room entrance.

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

Forecastle: 2 off 6 1/2" diam 3'0" x 30" coaming. Poop deck: 1 off 9" diam 3'0" x 32" coam.
1 - 12" - 4'7" x 32" - 1 - 12" - 3'0" x 28" -
1 - 18" - 3'0" x 38" - 1 - 12" - 3'0" x 32" -
3 - 18" - 4'0" x 38" - 2 - 12" - 4'6" x 32" -
Main deck: 4 - 18" - 5'0" x 38" -
2 - 21" - 5'0" x 40" -

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

Air pipes to double bottom tanks are fitted with swan necks.

Particulars of Gangway Cargo and Coaling Ports:— *None fitted.*

Particulars of Scuppers and Sanitary Discharge Pipes:—

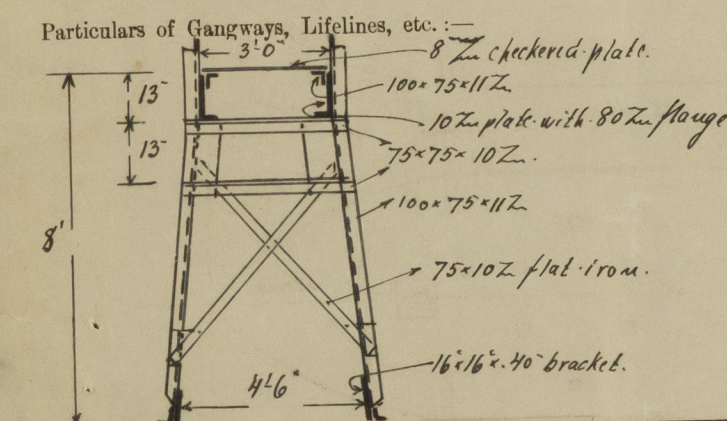
No scuppers below freeboard deck. Sanitary Discharge pipes are fitted with Non-Return Valves.

Particulars of Side Scuttles:— *Sidelights through ship's sides are fitted with hinged, per m. all dead lights.*
No other side scuttles through ship's sides.

Particulars of Guard Rails:—

Bulwark 5' high in fore well & 3'9" high in after well is fitted. 26 plating, 170 x 75 x 8.5 Z rail bar & staunches 180 x 106 Z spaced at 6'0" apart.

Particulars of Gangways, Lifelines, etc.:—



A gangway is fitted from poop deck to bridge deck.

Vertical supports spaced about 12'9" apart.

No bracing fore & aft for gangway.

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	176'7"	3'9"	2'3" x 0'9"	24	40.50 d	
Forward Well	98'11"	5'	2'3" x 0'9"	16	20.25 d	

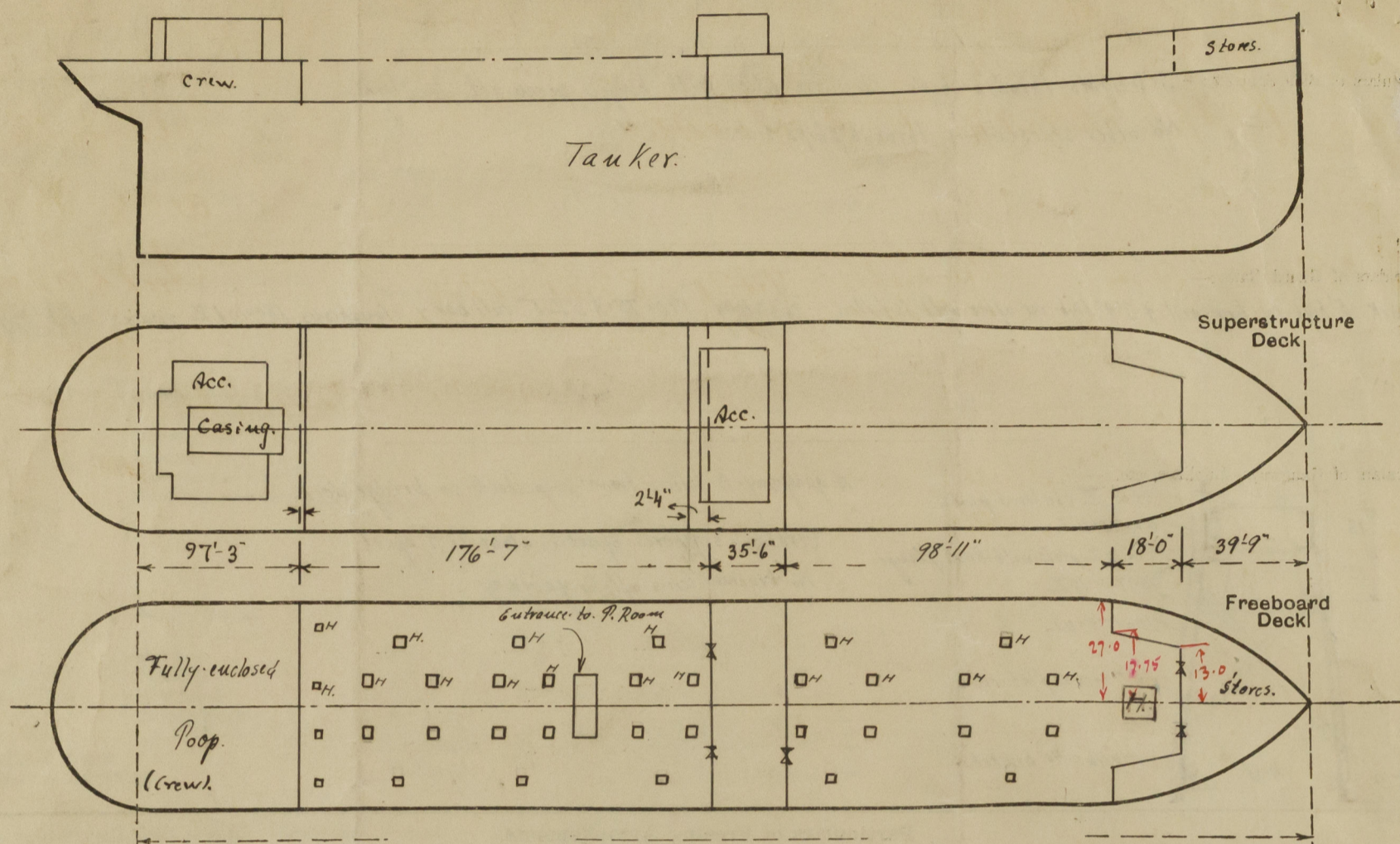
State position of each freeing port (F. and A. position and height above deck edge) } After Well:—
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— } Forward Well:—
 Additional area where sheer is less than standard.

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	21'48"	44"	270 x 90 x 13 Z	33"	Top Bracketed Bolt Lugged	None	✓	
Raised Quarter Deck Bulkhead	✓							
Bridge, After Bulkhead	Vert. pl.	36"	170 x 75 x 10 Z	36"	Take down bars	36" x 7'6"	None	7'9"
Bridge, Forward Bulkhead	18'48"	44"	250 x 90 x 11 Z	36"	Lugged top & bolt	35" x 5'0"	18"	7'9"
Forecastle Bulkhead	Vert. pl.	46"	130 x 75 x 8 Z	33"	None	36" x 8'0"	None	
Trunk, Aft	✓							
Trunk, Forward	✓							
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	✓							
Exposed Machinery Casings on Superstructure Decks	32 1/2" x 34"	30"	85 x 65 x 8 Z	28 1/2"	None	None	—	9'0"
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	No openings.
Raised Quarter Deck Bulkhead	✓
Bridge, After Bulkhead	Wood boards for full height in riveted channel bars.
Bridge, Forward Bulkhead	Hinged steel door capable of being manipulated from both sides.
Forecastle Bulkhead	Wood boards for full height in riveted channel bars.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	✓
Exposed Machinery Casings on Superstructure Decks	No openings.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓
Deckhouses on Flush Deck Ships	✓

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:—



$$\begin{aligned}
 & 59.75 - \left(\frac{17.75 + 13.0}{2} \right) \frac{18}{27} \\
 & = 59.75 - 10.25 \\
 & = 49.50 \text{ Equiv. enclosed}
 \end{aligned}$$

No sheathing on fore or upper deck. Poop deck & bridgedeck woodsheathed.
State any special features in the construction of the ship:—

This vessel has a cruiser stern.

Displacement on shell at 75% moulded depth: 17745 Tons. Tons per inch immersion: 59.73
 " " " " 85% " " " " " " " " " " 60.50
 " " " " 95% " " " " " " " " " " 61.02

$$\begin{aligned}
 & 28.14 \\
 & 27.19 \\
 & \hline
 & .95 \times 12 \times 59.75 = \frac{17745}{680} \\
 & \hline
 & 18425
 \end{aligned}$$

Builder's name and yard number: Kockums M. V. Aktieb. Malmö Yard N° 156.

Names of sister ships: M/V "Castor" Yard N° 155.

Owners: Trelleborgs Äggl Nya Aktieb. (J. Malmros, Mgr.) Trelleborg

Fee £ 1420 see sketch 1/8/32

Received by me 19/8/32 2/



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