

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

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

Computation of Freeboard for ~~Steamer~~ Sailing Ship, ~~Tanker~~
having FORECASTLE BRIDGE AND POOP

Port of Survey LONDON

Date of Survey _____

Name of Surveyor G. Scantlebury

Particulars of Classification 100A1

(Type of Superstructures.)

| Ship's Name | Nationality and Port of Registry | Official Number | Gross Tonnage | Date of Build |
|---------------|------------------------------------|-----------------|---------------|-----------------------------|
| <u>PASSAT</u> | <u>FINNISH</u> <u>MARIEHAMM</u> | <u>828</u> | <u>3137</u> | <u>1911</u> <u>11 MO</u> |

Moulded Dimensions: Length 318'-8" Breadth 47'-0" Depth 28'-0"
Moulded displacement at moulded draught = 85 per cent. of moulded depth 7127 tons
Coefficient of fineness for use with Tables .70

| Depth for Freeboard (D) | Depth correction | Round of Beam correction |
|---|--|---|
| Moulded depth (corrected for rise of floor) <u>27.97</u> | (a) Where D is greater than Table depth (D - Table depth) R = $(28.16 - 26.56) \left(1 + \frac{3/8 \times 47}{250}\right)$ <u>= +3.64"</u> | Moulded Breadth (B) <u>47.00</u> Standard Round of Beam = $\frac{B \times 12}{50} = 11.28"$ Ship's Round of Beam <u>= 11"</u> Difference <u>.28" deficient</u> |
| Stringer plate <u>5.44</u> | (b) Where D is less than Table depth (if allowed) (Table depth - D) R = <u>✓</u> | Difference <u>.28" deficient</u> |
| Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = .29 \times .5142$ <u>.15</u> | If restricted by superstructures <u>✓</u> | Restricted to |
| Depth for Freeboard (D) = <u>28.16</u> | | Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{.28}{4} \times .5277 = +.04"$ |

DEDUCTION FOR SUPERSTRUCTURES.

| | Mean Covered Length (S) | Equivalent Enclosed Length (S _i) | Height | Height Correction | Effective Length (E) | |
|----------------------------------|-------------------------|--|------------|-------------------|----------------------|--|
| Poop enclosed | <u>53.00</u> | <u>53.00</u> | <u>7.2</u> | | <u>53.00</u> | Standard Height of Superstructure <u>6.687</u> |
| " overhang | | | | | | " " R.Q.D. <u>✓</u> |
| R.Q.D. enclosed | | | | | | Deduction for complete superstructure <u>26.87</u> |
| " overhang | <u>65.73</u> | <u>65.73</u> | <u>7.9</u> | | <u>65.73</u> | Percentage covered $\frac{S}{L} = 48.58\%$ |
| Bridge enclosed | <u>65.73</u> | <u>65.73</u> | <u>7.9</u> | | <u>65.73</u> | " $\frac{S_1}{L} = 47.03\%$ |
| " overhang aft | <u>4.0</u> | | | | | " $\frac{E}{L} = 47.03\%$ |
| " overhang forward | <u>30.85</u> | <u>30.85</u> | <u>8.3</u> | | <u>30.85</u> | Percentage from Table, Line A. (corrected for absence of forecastle (if required)) |
| Fore enclosed <u>open</u> | <u>30.85</u> | <u>30.85</u> | <u>8.3</u> | | <u>30.85</u> | Percentage from Table, Line B. (corrected for absence of forecastle (if required)) <u>39.03</u> |
| " overhang | | | | | | Interpolation for bridge less than 2L (if required) |
| Trunk aft | | | | | | Deduction = $26.87 \times .3903 = -10.49$ |
| " forward | | | | | | |
| Tonnage opening aft | | | | | | |
| " " forward | | | | | | |
| Total | <u>154.81</u> | <u>149.85</u> | | | <u>149.85</u> | |

SHEER CORRECTION.

| Station | Standard Ordinate | S | M | Product | Actual Ordinate | Effective Ordinate | S | M | Product | |
|----------------------------------|-------------------|---|---|---------------|-----------------|--------------------|---|---|---------------|--|
| A.P. | <u>41.87</u> | 1 | | <u>41.87</u> | <u>41.75</u> | <u>41.75</u> | 1 | | <u>41.75</u> | Mean actual sheer aft = <u>Deficient</u> |
| $\frac{1}{2}$ L from A.P. | <u>18.63</u> | 4 | | <u>74.52</u> | <u>16.75</u> | <u>16.75</u> | 4 | | <u>67.00</u> | Mean actual sheer forward = <u>Deficient</u> |
| $\frac{2}{3}$ L " | <u>4.61</u> | 2 | | <u>9.22</u> | <u>3.75</u> | <u>3.75</u> | 2 | | <u>7.50</u> | Length of enclosed superstructure forward of amidships = <u>Sheers</u> |
| Amidships | <u>✓</u> | 4 | | <u>✓</u> | <u>✓</u> | <u>✓</u> | 4 | | <u>✓</u> | aft of " = <u>deficient</u> |
| $\frac{2}{3}$ L from F.P. | <u>9.22</u> | 2 | | <u>18.44</u> | <u>10.75</u> | <u>10.75</u> | 2 | | <u>21.50</u> | |
| $\frac{1}{2}$ L " | <u>37.26</u> | 4 | | <u>149.04</u> | <u>31.25</u> | <u>31.25</u> | 4 | | <u>125.00</u> | |
| F.P. | <u>83.74</u> | 1 | | <u>83.74</u> | <u>77.25</u> | <u>77.25</u> | 1 | | <u>77.25</u> | |
| Total | | | | <u>376.83</u> | | | | | <u>340.00</u> | |

Correction = $\frac{\text{Difference between sums of products}}{18} \left(75 - \frac{S}{2L}\right) = \frac{36.83}{18} \left(75 - \frac{.2429}{.5071}\right) = +1.04"$

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 = 28.33 Ft.
Summer freeboard = 5.65
Moulded draught (d) = 22.68

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches =

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

Δ =

Tons per inch immersion at summer load water line

T =

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

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient

Depth Correction
Deduction for superstructures
Sheer correction
Round of Beam correction
Correction for Thickness of Deck amidships
Other corrections, scantlings, etc.

| + | - |
|-------------|---------------------------------|
| <u>3.64</u> | |
| <u>-</u> | <u>10.49</u> |
| <u>1.04</u> | |
| <u>.04</u> | |
| <u>1.68</u> | |
| <u>-</u> | <u>-</u> |
| <u>6.40</u> | <u>10.49</u> |
| | <u>- 4.09</u> |
| | Summer Freeboard = <u>67.46</u> |

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

| | |
|---|---------------------------------------|
| Tropical Fresh Water Line above Centre of Disc | Tropical Fresh Water Freeboard |
| Fresh Water Line " " | Fresh Water " " |
| Tropical Line " " | Tropical " " |
| Winter Line below " " | Winter " " |
| Winter North Atlantic Line " " | Winter North Atlantic " " |

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

| HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS | | | | | | | | | | | |
|---|---|-----------------------|------------------|---------------------|---------------------|---------------------|-----|--|--|--|--|
| Description of Hatchway | | | N ^o 1 | N ^o 2 | N ^o 3 | N ^o 4 | | | | | |
| Dimensions of Hatchway | | | 8'-4" X 8'-4" | 25'-0" X 14'-0" | 18'-9" X 14'-0" | 16'-8" X 14'-0" | | | | | |
| COAMINGS | { | Height above Deck | 36" | 35" | 35" | 35" | | | | | |
| | | Thickness | Sides | 40" | 50" | 50" | 50" | | | | |
| | | | Ends | 40" | 50" | 50" | 50" | | | | |
| | | Stiffeners | ✓ | ✓ | ✓ | ✓ | | | | | |
| | | Brackets, Stays | ✓ | ✓ | ✓ | ✓ | | | | | |
| HATCH BEAMS | { | Number | / | 2 | 2 | 1 | | | | | |
| | | Spacing | / | 8'-3" | 6'-3" | 8'-2" | | | | | |
| | | Scantling and Sketch | / | 40" X 50" | 40" X 50" | 40" X 50" | | | | | |
| | | Bearing Surface | / | AS N ^o 2 | AS N ^o 2 | AS N ^o 2 | | | | | |
| FORE AND AFTERS | { | Number | 1 | 3 | 3 | 3 | | | | | |
| | | Spacing | 4'-2" | 3'-4" | 3'-4" | 3'-4" | | | | | |
| | | Unsupported Lengths | 7'-10" | 7'-9" | 5'-9" | 7'-9" | | | | | |
| | | Scantling* and Sketch | 10" X 8" | 10" X 8" | 10" X 8" | 10" X 8" | | | | | |
| | | Bearing Surface | WOOD | AS N ^o 1 | AS N ^o 2 | AS N ^o 2 | | | | | |
| HATCH COVERS | { | Material | PINE | PINE | | | | | | | |
| | | Thickness | 2 3/4" | 2 3/4" | | | | | | | |
| | | How fitted | THWART | THWART | AS N ^o 2 | AS N ^o 2 | | | | | |
| | | Bearing Surface | 2" | 2" | | | | | | | |
| Spacing of Cleats | | | 20" | 22" | AS N ^o 2 | AS N ^o 2 | | | | | |
| Number of Tarpaulins | | | 3 | 3 | AS N ^o 2 | AS N ^o 2 | | | | | |

*Are wood fore and afters steel shod at all bearing surfaces? YES

Are battens and wedges efficient and in good condition? YES

Are tarpaulins in good condition and in accordance with rule requirements? YES

Are lashings provided in accordance with rule requirements? N^o 2, 3 & 4

Particulars of fiddle, funnel and ventilator coamings :—

Particulars of Flush Bunker Scuttles :—

Particulars of Companionways :—

One steel companion 6-0" X 3-2" X 6-0" high in Poop leading to Poop space above of hatch, panelled, with 12" sill, operated from both sides.

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

4 Ventil on Bridge Deck. 12" dia coamings 20" X 50" to Bridge space.
 2 G.N. " " 6" X 4" " 12" X 42" "
 1 Vent " Fore Well. 12" dia " 20" X 50" to No 1 Hold.
 1 " " after 24" " 21" X 50" to Pump Well. (see circular hatch in after well).
 1 " " Poop Deck. 12" " 21" X 50" to Hold.
 2 " " " 8" " 14" X 26" " Poop & Poop space.

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

4 B.S. air pipe in Poop Deck. 6" high X 4" dia fitted with steel hinged flaps.

Particulars of Gangway Cargo and Coaling Ports :—

Particulars of Scuppers and Sanitary Discharge Pipes:—

Sanitary discharges fitted with steam valves. ✓

Passat

Particulars of Side Scuttles:—

None below freeboard deck. ✓

Particulars of Guard Rails:—

On Forecastle Deck 3-5" high three rods stanchions spaced 4-6" apart. ✓
On Bridge Deck steel railworks 3-5" high efficiently constructed and supported. ✓
On Poop Deck 3-5" high three rods stanchions 4-6" apart. ✓

Particulars of Gangways, Lifelines, etc.:—

Wires stretched fore & aft in wells with manila lifelines. ✓
Gangway fitted from Poop to Bridge and from Bridge to Forecastle efficiently supported
heavy stanchions and one wire on each side. ✓

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 | 83-6" | 5-0" | 1 @ 2-1' x 1-6" 2 @ 2-8" x 2-0" | 3 | 13.88 sq' | 16-7/10 ft ² 17-0 |
| Forward Well | 46-9" | 5-6" - 5-0" | 1 @ 2-1' x 1-6" 1 @ 2-8" x 2-0" | 2 | 8.56 sq' | 15-3/4 ft ² 16-0 |
| State position of each freeing port } After Well:— @ 5-0" 42-0" and 72-0" from aft. 12" above deck. ✓ (F. and A. position and height above deck edge) } Forward Well:— @ 17-0" and 46-0" from after end. ✓ State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of each:— Shutters hinged @ upper edge and middle fitted with 2 vertical rods. ✓ 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 | 9" x 42 | 42 | 4" x 3" x 26 BA | 20" | Bt to Top & Bottom | 2 @ 5-0" x 2-3" | 14" | 6-7" |
| Raised Quarter Deck Bulkhead ... | | | | | | | | |
| Bridge, After Bulkhead | 12" x 42 | 42 | 6" x 3 1/2" x 50 | 20" | None | 1 @ 5-0" x 2-0" | 12" | 7-2" |
| Bridge, Forward Bulkhead | 12" x 42 | 42 | 8" x 3 1/2" x 60 BA | 28" | Bt to Top & Bottom | 2 @ 5-6" x 2-3" | 12" | 7-2" |
| Forecastle Bulkhead | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Trunk, Aft | | | | | | | | |
| Trunk, Forward | | | | | | | | |
| Exposed Machinery Casings on Freeboard or Raised Quarter Decks ... | | | | | | | | |
| 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 | Steel Doors secured with dog clamps operated from both sides. ✓ |
| Raised Quarter Deck Bulkhead ... | |
| Bridge, After Bulkhead | Teak panelled doors 1 3/4" thick operated from both sides. ✓ |
| Bridge, Forward Bulkhead | Steel Doors secured with dog clamps operated from both sides. ✓ |
| Forecastle Bulkhead | Open. ✓ |
| Exposed Machinery Casings on Freeboard or Raised Quarter Decks ... | |
| Exposed Machinery Casings on Superstructure Decks | |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances | |
| Deckhouses on Flush Deck Ships ... | |



[illegible]

SMALL HATCHES
Under Forecastle. marked "H" 2'-6" x 5'-0" x 17' high fitted with wood covers, tarpaulins & cleats.
" " CH 18" dia x 22" " " " " " and canvas cover secured with lashing
on Fore Well Deck marked CH 24" dia x 19" high fitted with steel cover bayonet legs and canvas covers secured with lashing
on after " " CH 24" x 21" " " " " secured with lashing also cover reduced to 12" dia
In Poop Space marked "H" 3'-6" x 3'-0" x 15' high fitted with wood covers, tarpaulins & cleats.

SKY LIGHTS
on Bridge Deck marked "S" four steel covering 4'-0" x 3'-0" x 3'-0" high x .45 fitted with hinged teak flaps
On Poop " " " 8" " " " 4'-0" x 3'-0" x 3'-0" " x .45 " " " "
" " " " 5" one " " 3'-6" x 3'-6" x 3'-0" " x .45 " " " "

Rise of floor $36''$
 Half breadth of ship $= 23.5 \text{ ft.}$
 Standard Rise of floor $= 23.5 \times 1.5 = 35.25$
 Difference $= .75''$
 Allowance in reduced moulder depth $= \frac{.06}{2} = .03$

Fee £ 11 : 18 . 0 Received by me.