

-5 JUL 1932

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having a poop, bridge & forecastle

Port of Survey Oslo

Date of Survey 28th & 30th June 1932

Name of Surveyor Alde

Particulars of Classification 100A1
S.S. cl. No. 3-11, 22
S.S. cl. No. 2-30

Ship's Name HERAKLES (Type of Superstructures.)
VINSTRÅ

Nationality and Port of Registry Norwegian Finnish
Tonsberg Helsingfors

Gross Tonnage 4668 Date of Build 1910
10

Moulded Dimensions: Length 409 Breadth 52 Depth 28'-3"
Moulded displacement at moulded draught = 85 per cent. of moulded depth 11443 tons
Coefficient of fineness for use with Tables 784

| Depth for Freeboard (D) | | Depth correction | | Round of Beam correction | |
|---|-------|--|--|--|---------------------------------------|
| Moulded depth | 28.25 | (a) Where D is greater than Table depth (D - Table depth) R = | | Moulded Breadth (B) | 52.0 |
| Stringer plate | .04 | (28.29 - 27.27) 3 = + 3.06 | | Standard Round of Beam = $\frac{B \times 12}{50}$ | 12.48 |
| Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ | | (b) Where D is less than Table depth (if allowed) (Table depth - D) R = | | Ship's Round of Beam | 13.00 |
| Depth for Freeboard (D) = | 28.29 | If restricted by superstructures | | Difference | .52 |
| | | | | Restricted to | |
| | | | | Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right)$ | $\frac{.52}{4} \times (.1976) = -.03$ |

DEDUCTION FOR SUPERSTRUCTURES.

| | Mean Covered Length (S) | Equivalent Enclosed Length (S ₁) | Height | Height Correction | Effective Length (E) |
|-------------------------|-------------------------|--|--------|-------------------|----------------------|
| Poop enclosed ... | 36'-6" | 36.50 | 8.0' | | 36.50 |
| " overhang ... | | | | | |
| R.Q.D. enclosed ... | | | | | |
| " overhang ... | | | | | |
| Bridge enclosed... | 249'-2" | 249.17 | 8.0' | | 249.17 |
| " overhang aft ... | | | | | |
| " overhang forward | 44'-1" | 40.90 | 8.0' | | 40.90 |
| Fore enclosed ... | 43'-8" | 1.59 | | | 1.59 |
| " overhang ... | | | | | |
| Trunk aft ... | | | | | |
| " forward ... | | | | | |
| Tonnage opening aft ... | | | | | |
| " forward | | | | | |
| Total ... | 329.75 | 328.16 | | | 328.16 |

Standard Height of Superstructure 7.50

" " R.Q.D. 42.0

Deduction for complete superstructure 42.0

Percentage covered $\frac{S}{L} = 80.63$

" " $\frac{S_1}{L} = 80.24$

" " $\frac{E}{L} = 80.24$

Percentage from Table, Line A.
(corrected for absence of forecastle (if required)) 75.60

Percentage from Table, Line B.
(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = - 31.75

SHEER CORRECTION.

| Station | Standard Ordinate | S | M | Product | Actual Ordinate | Effective Ordinate | S | M | Product |
|-------------------------------|-------------------|---|---|---------|-----------------|--------------------|-------|---|---------|
| A.P. ... | 50.90 | 1 | | 50.90 | 50" | 50.0 | 50.0 | 1 | 50.00 |
| $\frac{1}{2}$ L from A.P. ... | 22.65 | 4 | | 90.60 | 21" | 21.73 | 21.73 | 4 | 86.92 |
| $\frac{3}{8}$ L " ... | 5.60 | 2 | | 11.20 | 6" | 5.43 | 5.43 | 2 | 10.86 |
| Amidships ... | 0 | 4 | | | | | | 4 | |
| $\frac{3}{8}$ L from F.P. ... | 11.20 | 2 | | 22.40 | 11" | 11.95 | 11.95 | 2 | 23.90 |
| $\frac{1}{2}$ L " ... | 45.30 | 4 | | 181.20 | 47" | 47.80 | 47.80 | 4 | 191.20 |
| F.P. ... | 101.80 | 1 | | 101.80 | 110" | 110.0 | 110.0 | 1 | 110.00 |
| Total ... | | | | 458.10 | | | | | 472.88 |

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

If limited on account of midship superstructure.

Mean actual sheer aft = Deficient. > 75%

Mean standard sheer aft =

Mean actual sheer forward = Even

Mean standard sheer forward =

Length of enclosed superstructure forward of amidships =

" " aft of " =

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 = 28.29 Ft.

Summer freeboard = 4.25

Moulded draught (d) = 24.04

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6.01" = 153 mm

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

Tons per inch immersion at summer load water line

T =

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

= 6.01" = 153 mm

not available

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{784 + .68}{1.36} = \frac{1.464}{1.36}$

| | + | - |
|--|------|-------|
| Depth Correction | 3.06 | |
| Deduction for superstructures | | 31.75 |
| Sheer correction | | .28 |
| Round of Beam correction | | .03 |
| Correction for Thickness of Deck amidships | | |
| Other corrections, scantlings, etc. | | |
| | 3.06 | 32.06 |

Summer Freeboard = 50.97

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

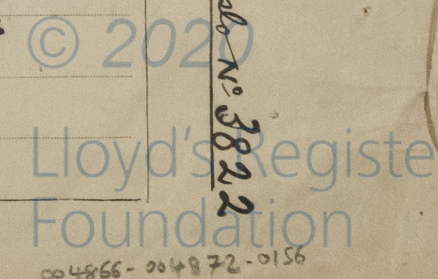
| | |
|--|-----------------|
| Tropical Fresh Water Line above Centre of Disc | 12.02" = 306 mm |
| Fresh Water Line | 6.01" = 153 " |
| Tropical Line | 6.01" = 153 " |
| Winter Line below | 6.01" = 153 " |
| Winter North Atlantic Line | |

| | |
|--------------------------------|------------------|
| Tropical Fresh Water Freeboard | 50.97" = 1295 mm |
| Fresh Water | 38.95" = 989 " |
| Tropical | 44.96" = 1142 " |
| Winter | 44.96" = 1142 " |
| Winter North Atlantic | 56.98" = 1448 " |

on the

Particulars of Gangway Cargo and Coaling Ports:—

To be attached to Incebrand Post - 660 N^o 3822



Particulars of Scuppers and Sanitary Discharge Pipes —

none below freeboard deck.

Sanitary discharges led overboard above freeboard dk., with storm valves
no overboard scuppers from bridge, poop & forecastle spaces

Particulars of Side Scuttles:

In forecastle & in bridge tween decks, above freeboard deck,
all fitted with hinged deadlights.

Particulars of Guard Rails:—

Forecastle, Bridge & Poop: Stanchions 3'-6" high spaced 4'-6" to 4'-9"
two rails except on bridge deck, where
three rails.

Particulars of Gangways, Lifelines, etc.:—

none.

Suitable provision made for rigging lifelines
in both wells.

Particulars of Freeing Arrangements.

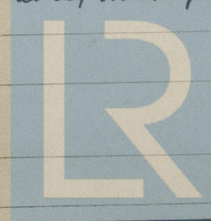
| | Length of Bulwark | Height of Bulwark | Size of Freeing Ports | Number each side | Area each side | Rule area each side |
|--|-------------------|-------------------|--------------------------------|--------------------|--|---------------------|
| After Well | 42'-10" 43'-4" | 4'-3" | 3'-0" x 2'-0 1/2" 27" x 20" | one } 2 one } 2 | 10.0 ft ² 2763.75 ft ² | 10.8 |
| Forward Well | 36'-10" | 4'-3" | 27" x 20" | one } 2 one } 2 | 10.0 ft ² 3.76 ft ² | 10.2 |
| State position of each freeing port } After Well 17'-23'-6" from bridge after bulkhead (F. and A. position and height above deck edge) } Forward Well 12'-14'-4" from bridge forward | | | | | | |
| State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— Shutter & 2 rails, 13" above dk. edge (Lamb's patent) | | | | | | |
| 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 | 42 | 38 | 6" x 3 1/2" x 40' angle | 30" | none | 6'-2 1/4" x 4' | 18" | 8'-0" |
| Raised Quarter Deck Bulkhead ... | | | | | | | | |
| Bridge, After Bulkhead | none | 25 | 3" x 3" x 28" angle | 29"-30" | none | 8'-0" x 4' | 19" | 8'-0" |
| Bridge, Forward Bulkhead | 30" x 42" | 38 | 8" x 3 1/2" x 58 ba | 30"-32" | Buckets top & bottom | 5'-3" x 2'-6" | 18" | |
| Forecastle Bulkhead | 18" x 24" | 32 | 3" x 3" x 26 o. a | 30"-33" | none | 5'-9 1/2" x 3'-3 1/4" | 18" | 8'-0" |
| Trunk, Aft | | | | | | | | |
| Trunk, Forward | | | | | | | | |
| Exposed Machinery Casings on Freeboard or Raised Quarter Decks ... | | | | | | | | |
| Exposed Machinery Casings on Superstructure Decks | 32 | 26 | 3 1/2" x 3" x 30' angle | 3'-6" | Buckets top & bottom cont. | 5'-2" x 24" | 18" | 4'-6" |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances | 38 | 34 | 3 1/2" x 3 1/2" x 36' angle | 3'-6" | none | 4'-10 1/2" x 23 1/2" | 20" | 8'-0" |
| Deckhouses on Flush Deck Ships ... | | | | | | | | |

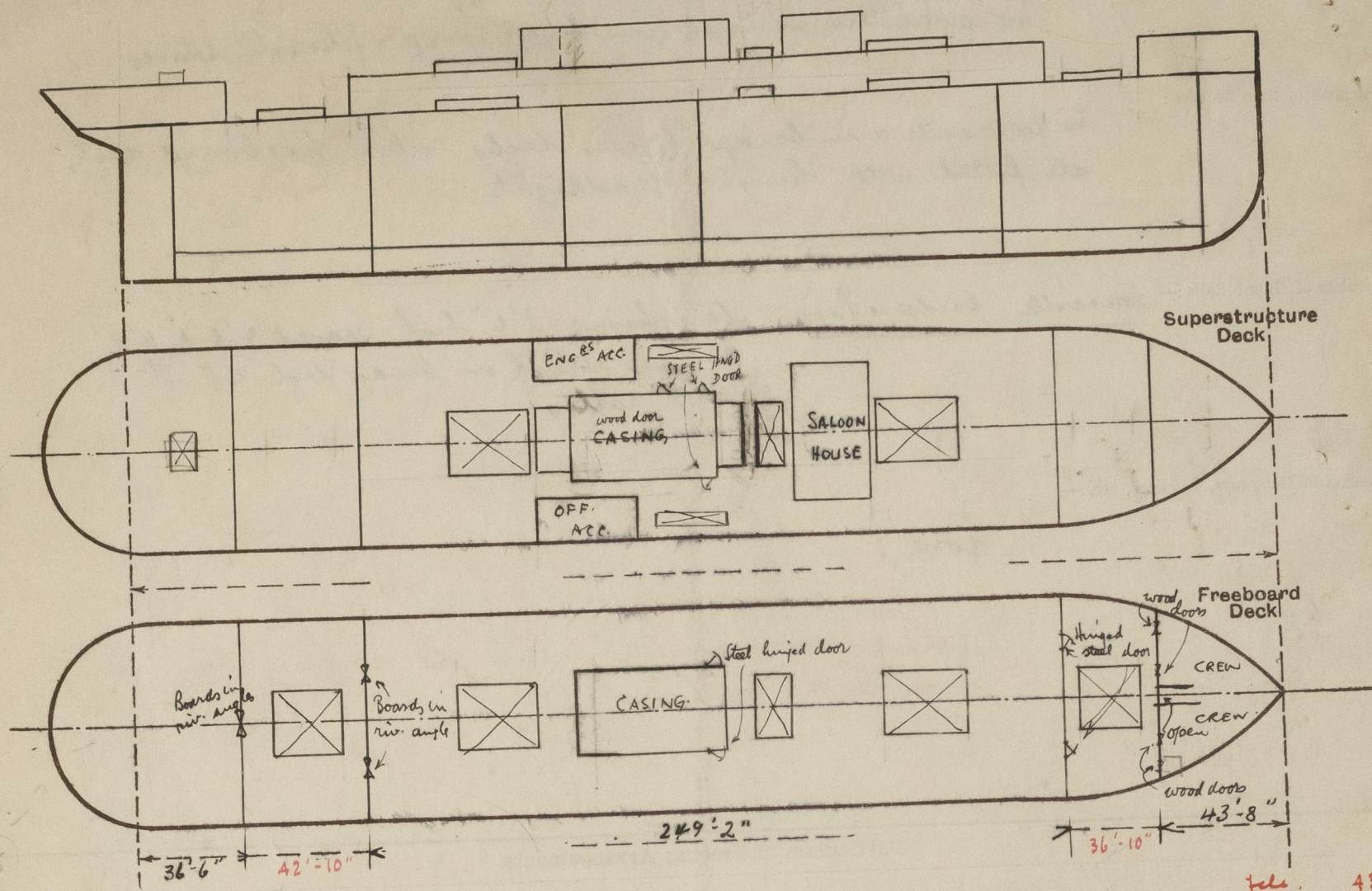
Particulars of Closing Appliances (state if capable of being manipulated from both sides).

| | |
|--|--|
| Poop Bulkhead | 2 1/8" boards in riveted angles for the full height |
| Raised Quarter Deck Bulkhead ... | 2 3/4" boards in riveted angles P.S.— on port side one 2" wood door to carpenters store & cabin (wood partitions only) |
| Bridge, After Bulkhead | Two hinged steel doors, P.S., manipulated from outside only. |
| Bridge, Forward Bulkhead | To centre opening none. 2" wood doors, P.S. |
| Forecastle Bulkhead | wood door, P.S. to E.R. steel hinged door to donkey boiler space, port side |
| Exposed Machinery Casings on Freeboard or Raised Quarter Decks ... | Steel hinged door, P.S., to stokehold. |
| Exposed Machinery Casings on Superstructure Decks | |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances | 1 steel door, P.S., to stokehold |
| Deckhouses on Flush Deck Ships ... | |



Lloyd's Register Foundation

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:—



43.67
42.04
44.09
40.90 = 1/10
215.19
1.59

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

A timber deck cargo freeboard is also required; see attached sheet

Hatchways (cont.). Bridge deck bunker hatch: 15'-2" x 3'-0"; coaming 9" BA. 2 1/2" wood covers, fitted athwartships, 3" bearing surface; cleats sp. 22"-26"; 2 tarpaulins ✓
Upper deck bunker hatch: 21'-8" x 3'-0"; coaming 9" BA. 2 1/2" wood covers, fitted athwartships, 2 1/8" bearing; cleats sp. 24" 1 Tarpaulin ✓
" " small P.S. " : 4' x 3'; coaming 9" BA. 2 1/2" wood covers, fitted athwartships; 2 1/2" bearing surface; cleats spaced 23"-30". 1 Tarpaulin ✓
Hatchway on poop: 8'-2 1/2" x 7'-10"; 1 fore-and-after, equal spacing, 5 1/2" x 7" wood 12 1/4" 3/4" coaming. 1 3/4" bearing surface. 2 1/2" wood covers, fitted athwartships, bearing surface 2". Cleats spaced 22"-25". 2 tarpaulins ✓
In poop: 3'-6" x 4'; 10" [coaming. Steel W.I. cover. 7/20"]

Lloyd's Register freeboard certificate dated 27/9/10:
S. 4'-6 1/2" Stat. dk. line 2"
1.5. 5 1/2"; W. 5 1/2". above top of upper deck edge at side

The survey was held in floating dock at the same time as an annual bottom survey.

Builder's name and yard number Russell & Co., Pt. Glasgow NC 618.

Names of sister ships

Owners W. Wilhelmssen, Oslo.

Fee Kr. 234.00

Received by me

4E.

21.32 = 10045
2.89 1455
24.21 11500
57 mill
11443

85% DM

24.01
.20
24.21
21.32
2.89 x 12 x 42 = 1455



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