

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Rpt. No. 3818.

Index. No. 26008

(For London Office only.)

JUL 1932

-8 SEP 1932

Computation of Freeboard for ~~Steamer, Sailing Ship, Tanker~~
having Scop, Bridge, Fire & trunk

Port of Survey Moss

(Type of Superstructures.)

Date of Survey 27/6/32

Ship's Name

Nationality and Port of Registry

Official Number

Gross Tonnage

Date of Build

REALF

Norwegian
Oslo

5562

1916/8

Name of Surveyor Geo. Webster

Moulded Dimensions: Length 399.6 ✓ Breadth 52.0 ✓ Depth 31.0 ✓
Moulded displacement at moulded draught = 85 per cent. of moulded depth 12010 tons
Coefficient of fineness for use with Tables .768

Particulars of Classification +100.A.I.
S.S. Reg. No. 3-3,31
Carrying O.F. which
F.R. above 150°F ✓

| Depth for Freeboard (D) | | Depth correction | | Round of Beam correction | |
|------------------------------------|-------|--|---|--|-------------------------------------|
| Moulded depth | 31.00 | (a) Where D is greater than Table depth (D-Table depth) R = | | Moulded Breadth (B) | 52.0 |
| Stringer plate | .04 | (31.04 - 26.64) 3 = + 13.20 | | Standard Round of Beam = $\frac{B \times 12}{50}$ | 12.48 |
| Sheathing on exposed deck | | (b) Where D is less than Table depth (if allowed) (Table depth-D) R = | | Ship's Round of Beam | 13 |
| $T \left(\frac{L-S}{L} \right) =$ | ✓ | | | Difference | .52 |
| Depth for Freeboard (D) = | 31.04 | If restricted by superstructures | ✓ | Restricted to | |
| | | | | Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right)$ | $= \frac{.52}{4} \times .21 = -.03$ |

DEDUCTION FOR SUPERSTRUCTURES.

| | Mean Covered Length (S) | Equivalent Enclosed Length (S ₁) | Height | Height Correction | Effective Length (E) |
|--------------------------------|-------------------------|--|----------|-------------------|----------------------|
| Poop enclosed ... | 49.4 | 49.40 | 7.5-7.25 | 7.25 | 47.78 |
| " overhang ... | | | | 7.496 | |
| R.Q.D. enclosed ... | | | | | |
| " overhang ... | | | | | |
| Bridge enclosed... | 121.0 | 121.00 | 7.5 | × 90% | 108.90 |
| " overhang aft ... | | | | | |
| " overhang forward | | | | | |
| Fore enclosed ... | 39.0 | 39.00 | 7.5-6.5 | 6.5 | 33.82 |
| " overhang ... | | | | 7.496 | |
| Trunk aft <u>86.8 × 30</u> ... | 86.8 | 50.08 | 7.5 | 90% | 45.07 |
| " forward <u>97.4 × 30</u> ... | 103.4 | 56.19 | 7.5 | 100% | 56.19 |
| Tonnage opening aft ... | | | | | |
| " " forward | | | | | |
| Total ... | <u>399.6</u> | <u>315.67</u> | | | <u>291.76</u> |

Standard Height of Superstructure 7.496

" " R.Q.D. ✓

Deduction for complete superstructure 41.97

Percentage covered $\frac{S}{L} = 52.41\%$

" $\frac{S_1}{L} = 79.00\%$

" $\frac{E}{L} = 73.02\%$ ✓

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

Percentage from Table, Line B. TANKER 66.71%
(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = $41.97 \times .6671 = -28.00$ ✓

SHEER CORRECTION.

| Station | Standard Ordinate | S M | Product | Actual Ordinate | Effective Ordinate | S M | Product |
|-------------------------------|-------------------|-----|---------------|-----------------|--------------------|--------------------|---------------|
| A.P. ... | 49.96 | 1 | 49.96 | 42" | 48.00 | 48.00 ¹ | 48.00 |
| $\frac{1}{4}$ L from A.P. ... | 22.23 | 4 | 88.92 | 16" | 9.80 | 9.80 ⁴ | 39.20 |
| $\frac{2}{4}$ L " ... | 5.49 | 2 | 10.98 | 0 | ✓ | 2 | ✓ |
| Amidships ... | ✓ | 4 | ✓ | 0 | ✓ | 4 | ✓ |
| $\frac{3}{4}$ L from F.P. ... | 10.99 | 2 | 21.98 | 0 | ✓ | 2 | ✓ |
| $\frac{1}{4}$ L " ... | 44.47 | 4 | 177.88 | 18" | 16.80 | 16.80 ⁴ | 67.20 |
| F.P. ... | 99.92 | 1 | 99.92 | 90" | 90.00 | 90.00 ¹ | 90.00 |
| Total ... | | | <u>449.64</u> | | | | <u>244.40</u> |

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{205.24}{18} \times (.75 - .2620) = +5.56$ ✓

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 = 31.04 ✓
Summer freeboard = 4.76 ✓
Moulded draught (d) = 26.28 ✓

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 6.57 = 167 ✓

Addition for Winter North Atlantic Freeboard (if required) = 3.996 = 4.00 = 102 ✓

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 12020$

Tons per inch immersion at summer load water line

T = 42.0

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

= 7.15

= 182 ✓

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{768 + .68}{1.36} = 1.448$

Depth Correction ... 13.20 ✓

Deduction for superstructures ... 28.00 ✓

Sheer correction ... 5.56 ✓

Round of Beam correction03 ✓

Correction for Thickness of Deck amidships ... ✓

Other corrections, scantlings, etc. ... ✓

18.76 28.03 - 9.27

Summer Freeboard = 57.17

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wash, Steel, Deck:— 57.17 = 1452 ✓

Tropical Fresh Water Line above Centre of Disc 13.72 = 348 ✓

Fresh Water Line " " 7.15 = 182 ✓

Tropical Line " " 6.57 = 167 ✓

Winter Line below " " 6.57 = 167 ✓

Winter North Atlantic Line " " 10.57 = 269 ✓

Tropical Fresh Water Freeboard ... 43.45 = 1,104 ✓

Fresh Water " " 50.02 = 1,270 ✓

Tropical " " 50.60 = 1,285 ✓

Winter " " 63.74 = 1,619 ✓

Winter North Atlantic " " 67.74 = 1,720 ✓

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

| HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS | | | | | | | | | | | | | |
|---|-----|-----------------------|-----------------|-----------------------------|------------------|-----------------------|----------------|-------------------------|---------------|-------------------------|-----------------|----------------------|------|
| <div>← Trunk top → ← Fore Dr → ← Bridge Dr → ← Poof Dr →</div> | | | | | | | | | | | | | |
| Description of Hatchway | ... | ... | Fore Cargo Hold | Fore Cargo Hold & Pump Room | Aft Cargo Hold | F. P. Store | Cargo Bunker | Fore Dr. Bunkers & P.S. | Store aft. | Forward Store aft. S.S. | Store aft. P.S. | To L. 3. P. 2. 1. 0. | |
| Dimensions of Hatchway | ... | ... | 23'-0" x 18'-0" | 3'-0" x 1'-9" | 13'-0" x 17'-11" | 2'-6 1/2" x 2'-6 1/2" | 6'-6" x 18'-0" | 8'-0" x 4'-0" | 4'-0" x 4'-0" | 3'-0" x 2'-6" | 3'-6" x 3'-6" | 8'-0" x 4'-0" | |
| COAMINGS | { | Height above Deck | 30" | 18 1/2" | 30" | 15 1/2" | 30" | 30" | 18" | 9" B.A. | 19" | 9" | |
| | | Thickness { Sides | .40 | .34 | .40 | } | .36 | .40 | .40 | .40 | 18 | 30 | B.A. |
| | | Ends | .40 | .34 | .40 | | | | | | | | |
| | | Stiffeners | 7" B.A. S & E | none | 7" B.A. S & E | none | none | none | none | none | none | none | none |
| Brackets, Stays | | | none | none | none | none | none | none | none | none | none | none | |
| HATCH BEAMS | { | Number | 4 | | 2 | | | | | | | | |
| | | Spacing | Equal | | Equal | | | | | | | | |
| | | Scantling and Sketch | 16 x 36 | none | 16 x 36 | | | | | | | | |
| | | | 4 x 3 x .444 | | 4 x 3 x .444 | | | | none | | | | |
| Bearing Surface | | 3" | | 3" | | | | | | | | | |
| FORE AND AFTERS | { | Number | | | | | | | | | | | |
| | | Spacing | | | | | | | | | | | |
| | | Unsupported Lengths | | | | | | | | | | | |
| | | Scantling* and Sketch | | | | | | none | | | | | |
| Bearing Surface | | | | | | | | | | | | | |
| HATCH COVERS | { | Material | Wood | Wood | Wood | Wood | Wood | Wood | Wood | Wood | W.P. | None | |
| | | Thickness | 2 1/4" | 2 1/2" | 2 3/8" | 2 1/2" | 2 1/2" | 2 5/8" | 2 1/2" | 2 1/2" | 2 1/2" | Thrust | |
| | | How fitted | F. & A. | Thrust. | F. & A. | Thrust. | F. & A. | Thrust. | Thrust. | F. & A. | Steel Cover | 3" | |
| | | Bearing Surface | 3 1/4" | 2 1/2" | 3 1/4" | 2 1/2" | 2 5/8" | 2 1/2" | 2 1/2" | 3" | | | |
| Spacing of Cleats | | | 24/25" | 14/24" | 24/26" | 20" | 22/24" | 19/26" | 20/29" | 20/22" | | 21/26" | |
| Number of Tarpaulins | | | 3 | 2 | 3 | 2 | 3 | 3 | 2 | 2 | | | |
| <div>Are wood fore and afters steel shod at all bearing surfaces? <input checked="" type="checkbox"/> Yes</div> <div>Are battens and wedges efficient and in good condition? <input checked="" type="checkbox"/> Yes</div> <div>Are tarpaulins in good condition and in accordance with rule requirements? <input checked="" type="checkbox"/> Yes</div> <div>Are lashings provided in accordance with rule requirements? <input checked="" type="checkbox"/> Yes</div> | | | | | | | | | | | | | |
| Remainder of hatches on last page. | | | | | | | | | | | | | |

Remainder of hatches on last page.

Particulars of fiddle, funnel and ventilator coamings:— *Funnel & ventilator coamings on top of casing 7'-6" above bridge Dr. in good condition*
Fiddle openings covered by loose thin steel plates

Particulars of Flush Bunker Scuttles:— *none*

Particulars of Companionways:— *On poof P.S. 5'-6" x 3'-0" x 6'-0" high, 1 1/4" side, 30 plating 1 half round shiff each side. Wood door opening from both sides 4'-8" x 2'-6"*
✓ Steel Skylight to Mess Room
✓ Funnel escape leading into Poof Space. Steel door opening from both sides, 4'-10" x 1'-8", 1 1/2" side

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

| | |
|--|--|
| <i>Fore Dr. 1'-11" d. x 36" x 30" to F.P. Store.</i> | <i>Poof Dr. 6'-8" d. x 9" x 40" to Acc. & port. room</i> |
| <i>Trunk Top for 2'-11" d. x 36" x 30" to fore. Cargo hold</i> | <i>1'-8" d. x 24" x 26" to Acc. & port. room</i> |
| <i>1'-6" d. x 24" x 26" " " Pump room</i> | <i>1'-12" d. x 18" x 26" " Store</i> |
| <i>Bridge Dr. 2'-9" d. x 25" x 26" to X. Bunker.</i> | <i>2'-11" d. x 24" x 36" " "</i> |
| <i>4'-12" d. x 24" x 28" " Bunkers.</i> | <i>1'-10" d. x 24" x 24" " "</i> |
| <i>Trunk Top aft 4'-11" d. x 24" x 24" to aft hold</i> | <i>11'-8" d. 20 down mushroom vents to Acc. & port. room</i> |
| | <i>4'-6" d. " " " " " "</i> |

all have ~~XX~~ means of closing

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—
To main tanks on top of hatches, opening 31" above trunk top.
On bridge Dr from S.R. D.B. tanks opening 6'-12" above deck.

XX means of closing provided

Particulars of Gangway Cargo and Coaling Ports:— *none*



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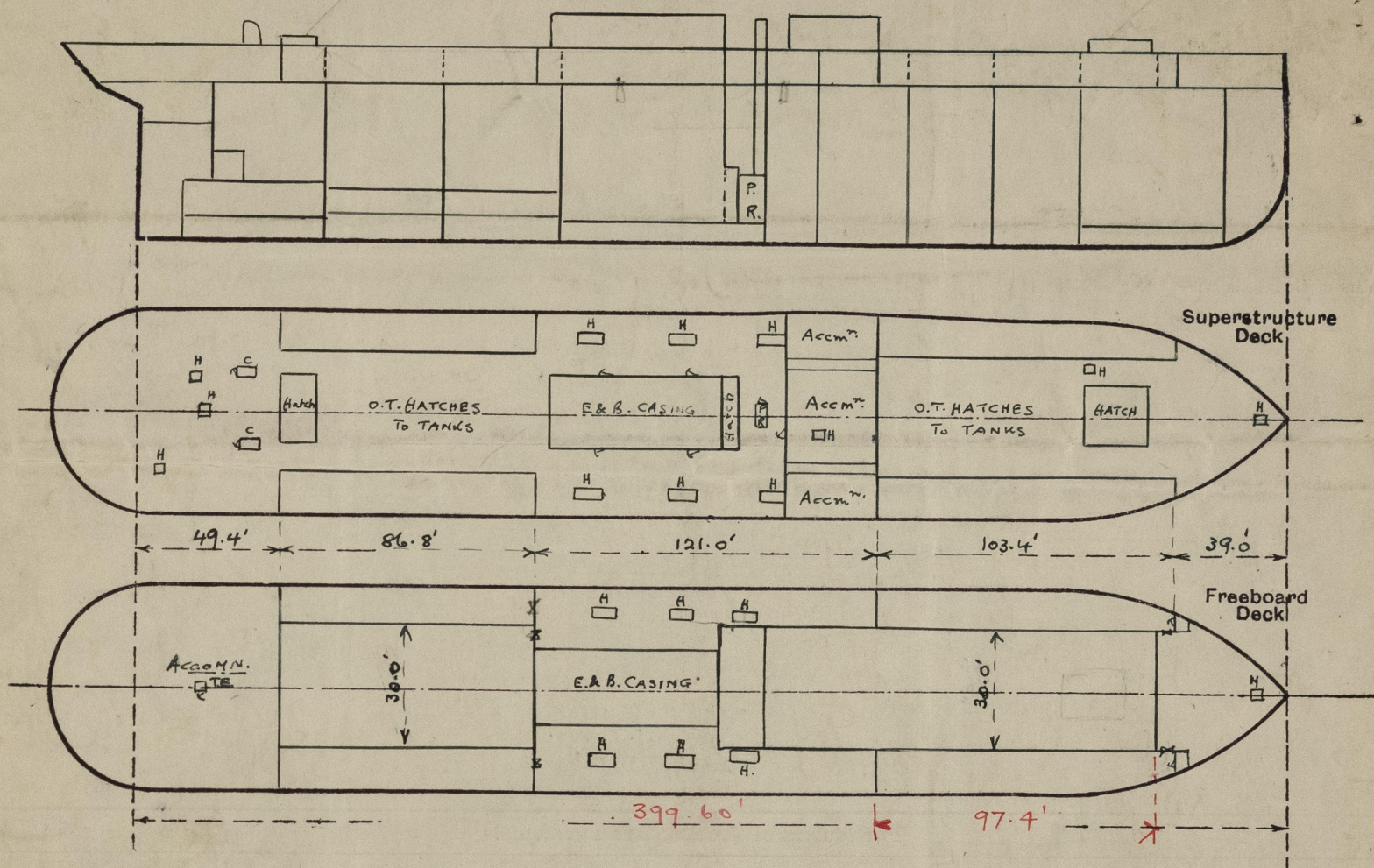
Particulars of Side Scuttles: In File & Poop with no dead lights

Particulars of Gangways, Lifelines, etc.:— *none, Trunk Top used.*

| 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 | ✓ | .40 | 7 x 3 x .36 L | 33" | Bkt. T + B. | none | ✓ | 7'-3" - 7'-6" |
| Raised Quarter Deck Bulkhead ... | | | | | | | | |
| Bridge, After Bulkhead | ✓ | .48 | 4 x 3 x .40 L | 34" | Bkt. T + B. | 5'-0" x 3'-0" | 20" | 7'-6" |
| Bridge, Forward Bulkhead | ✓ | .48 | 8 x 3 x .50 L | 40" - 46" | Bkt. T + B. | none | ✓ | " |
| Forecastle Bulkhead ... <i>Transverse</i> ... | none | .30 | 3½ x 3 x .40 L | 28" - 30" | none | 4'-10" x 1'-11" | 18" | 7'-6" - 6'-0" |
| Forecastle Bulkhead ... <i>Ft A</i> ... | | <i>Trunk side</i> | | | | 5'-0" x 3'-4" | 18" | " |
| Trunk, Aft | | | | | | | | |
| Trunk, Forward | | | | | | | | |
| Exposed Machinery Casings on Free-board or Raised Quarter Decks ... | | | | | | | | |
| Exposed Machinery Casings on Super-structure Decks | 40 x .32 | .30 | 3½ x 3 x .36 L | 28" | <i>large bkt. at top every 3rd. none at bottom.</i> | 5'-0" x 2'-0" | 18" | 7'-6" |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances | none | .30 | <i>1 long stiff 7½ x 3 x .50 BA. and web spaced 11'-4" apart.</i> | | ✓ | none | ✓ | 7'-6" |
| <i>Pump Room Enclosed Bridge Deckhouses on Flush Deck Ships</i> ... | ✓ | .30 | 4 x 3 x .36 L | <i>sides 24" ends 36-42"</i> | none | 5'-0" x 2'-0" | 13" | 6'-10" |

| Particulars of Closing Appliances (state if capable of being manipulated from both sides). | |
|--|---|
| Poop Bulkhead | none |
| Raised Quarter Deck Bulkhead ... | |
| Bridge, After Bulkhead | Portable steel plates P & S. with bolts passing thro' plate only and fitted with plate clips 13" apart. |
| Bridge, Forward Bulkhead | none |
| Forecastle Bulkhead | Steel doors P & S opening from both sides to Lamp Room & Boat Store. |
| Exposed Machinery Casings on Free-board or Raised Quarter Decks ... | Wood Shifting boards (3") full height in miter angles. |
| Exposed Machinery Casings on Super-structure Decks | Steel door opening from both sides P & S. to Engine Room & same to B.R. |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances | no openings |
| Pump Room Entrance above the Deckhouses on Flush Deck Ships ... | Steel door opening from both sides. |

Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway 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:—

Hatches continued from page 2:— Hatches to main tanks O.T. on top of trunk.

- ✓ To fore peak store on upper Deck inside fore 2'-11" x 2'-11", 9" B.A. Coaming, 2 1/2" wood covers (thick), 2 3/4" b. surface, no cleats.
- ✓ Coal Shoot hatch on casing Top 4'-4" x 16'-6", 6" B.A. Coaming, 2 1/2" wood covers (F & A.) 3" bearing Cleats, 24" apart, 2 tarpaulins.
- On Bridge Deck inside deckhouse leading down to store 2'-4" x 2'-4" flush with wood covers.
- Door in aft end of deckhouse leading to them, is of wood 4'-10" x 2'-3", 20" sill.

Present N.V. freeboards from Certificate aboard dated 10/3/30:—

| | | |
|----------------|-----------|----------------------|
| Summer ft. | 5'-8" | From steel upper Dk. |
| F.W. | 5'-1 1/2" | |
| T. | 5'-2" | |
| W. | 6'-2" | |
| Aft. T. Summer | 5'-8" | |

The Survey has been confined to obtaining the above particulars.

The Owners do not desire deeper loading at present but only require a new certificate with the present freeboards. They desire however to be informed of what deeper loading can be obtained if at a future date they require same, when the necessary alterations will be carried out.

Builder's name and yard number: Armstrong Whitworth & Co. Ltd. n/c.

Names of sister ships:

Owners: Skibsaktieselskapet Asplund (Gerg Rönneberg & Jens Fr. Salting)

Fee £Ks. 247.0

Received by me:

Har. Expenses 19.00



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