

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

GRK REPORT N° 20666

| | | | | | |
|--|----------------------------------|---|--|---|--|
| Ship's Name "AFRICA SHELL" | Official Number 167164 | Nationality and Port of Registry BRITISH, LONDON. | Gross Tonnage (APPROX.) 640. 705.82 | Date of Build UNDER CONSTRUCTION. | Port of Survey GREENOCK. |
| Moulded Dimensions: Length 180.23 FT. Breadth 29.5 FT. Depth 11.75 FT. | | | | | Date of Survey WHILE BUILDING. |
| Moulded displacement at moulded draught = 85 per cent. of moulded depth (16'0") 1040 tons (T.P.I. 9.68) | | | | | Surveyor's Signature R. M. Scott. |
| Coefficient of fineness for use with Tables .685 | | | | | Particulars of Classification: 100 A1. "CARRYING PETROLEUM IN BULK" - "LONGITUDINAL FRAMING AT BOTTOM IN CENTRE TANKS AND IN TRUNK" |

| | | |
|--|---|---|
| Depth for Freeboard (D). | Depth correction. | Round of Beam correction. |
| Moulded depth ... 11.75 FT. | (a) Where D is greater than Table depth (D-Table depth) R = | Moulded Breadth (B) 29.5 FT. |
| Stringer plate .3803 FT. | (b) Where D is less than Table depth (if allowed) (Table depth - D) R = | Standard Round of Beam = $\frac{B \times 12}{50}$ = 7.08 |
| Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ | (12.02 - 11.78) 1.387 = -.33 | Ship's Round of Beam = 7.5 INS. |
| Depth for Freeboard (D) = 11.78 | If restricted by superstructures .33 x 4/6 = -.22 | Difference EXCESS .42 |
| | | Restricted to |
| | | Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L}\right)$ = $\frac{.42}{4} \times .2133$ = -.02 |

DEDUCTION FOR SUPERSTRUCTURES.

| | Mean Covered Length (S) | Equivalent Enclosed Length (S ₁) | Height | Height Correction | Effective Length (E) |
|-------------------------|-------------------------|--|----------------|-------------------|----------------------|
| Poop enclosed ... | ✓ | | | | |
| " overhang ... | ✓ | | | | |
| R.Q.D. enclosed ... | 60.04 | 60.04 | 4.0 FT. | ✓ | 60.04 |
| " overhang ... | ✓ | | | | |
| Bridge enclosed ... | ✓ | | | | |
| " overhang aft ... | ✓ | | | | |
| " overhang forward ... | ✓ | | | | |
| Fore enclosed ... | 22.73 | 22.73 | 8.0 FT. | | 22.73 |
| " overhang ... | ✓ | | | | |
| Trunk aft ... | 59.02 | 59.02 | 4.0 FT. | 4/6 | 39.35 |
| " forward ... | ✓ | | | | |
| Tonnage opening aft ... | ✓ | | | | |
| " " forward ... | ✓ | | | | |
| Total ... | 52.77 | 141.79 | | | 122.12 |

Standard Height of Superstructure **6.00** ✓

" " R.Q.D. **3.535** ✓

Deduction for complete superstructure **24.02**

Percentage covered $\frac{S}{L} = \frac{52.77}{117.8} = \mathbf{45.92}$ ✓

" " $\frac{S_1}{L} = \frac{141.79}{117.8} = \mathbf{78.67}$ ✓

" " $\frac{E}{L} = \frac{122.12}{117.8} = \mathbf{67.76}$ ✓

Percentage from Table, Line A. TANKER **60.54** ✓
(corrected for absence of forecastle (if required))

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

Interpolation for bridge less than .2L (if required) ✓

Deduction = **24.02 x .6054 = -14.54**

SHEER CORRECTION.

| Station | Standard Ordinate | S | M | Product | Actual Ordinate | Effective Ordinate | S | M | Product |
|---------------------|-------------------|---|---|---------------|-----------------|--------------------|---|---|---------------|
| A.P. ... | 28.02 | 1 | | 28.02 | 27.5 | 27.50 | 1 | | 27.50 |
| 1/4 L from A.P. ... | 12.47 | 4 | | 49.88 | 11.625 | 11.625 | 4 | | 46.50 |
| 1/2 L " ... | 3.08 | 2 | | 6.16 | 2.0 | 2.00 | 2 | | 4.00 |
| Amidships ... | | 4 | | | | | 4 | | |
| 3/4 L from F.P. ... | 6.16 | 2 | | 12.32 | 6.375 | 6.375 | 2 | | 12.75 |
| 1/4 L " ... | 24.95 | 4 | | 99.80 | 24.5 | 24.50 | 4 | | 98.00 |
| F.P. ... | 56.05 | 1 | | 56.05 | 54.5 | 54.50 | 1 | | 54.50 |
| Total ... | | | | 252.23 | | | | | 243.25 |

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{8.98 (.75 - .2296)}{18 \times 5204} = \mathbf{+.26}$

If limited on account of midship superstructure.

Mean actual sheer aft = **Deficient**

Mean standard sheer aft = **Deficient**

Mean actual sheer forward = **Deficient**

Mean standard sheer forward = **Deficient**

Length of enclosed superstructure forward of amidships = **Sheers deficient.**

" " aft of " = **deficient.**

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **11.78** Ft.

Summer freeboard = **.46**

Moulded draught (d) = **11.32**

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = **2.83 = 2 3/4**

Addition for Winter North Atlantic Freeboard (if required) = **2.83 + 2 = 4.83 = 4 3/4**

Deduction for Fresh Water.

Displacement in salt water at **9 FT. = 925 TONS.**

$\Delta = 11 FT. = 1154$

Tons per inch immersion at **summer load water lines**

$T = 9 FT. = 9.65$

$11 FT. = 9.72$

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

$= \frac{1191}{40 \times 9.73}$

= 3.06 = 3"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{685 + .68}{1.36} = \frac{1.365}{1.36}$

| | + | - |
|--|------------|--------------|
| Depth Correction ... | | .22 |
| Deduction for superstructures ... | | 14.54 |
| Sheer correction ... | .26 | |
| Round of Beam correction ... | | .02 |
| Correction for Thickness of Deck amidships ... | | |
| Other corrections, scantlings, etc. ... | | |
| | .26 | 14.78 |
| Summer Freeboard = | | 5.39 |

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

| | |
|--|--------------|
| Tropical Fresh Water Line above Centre of Disc ... | 5 3/4 |
| Fresh Water Line " " ... | 3 |
| Tropical Line " " ... | 2 3/4 |
| Winter Line below " " ... | 2 3/4 |
| Winter North Atlantic Line " " ... | 4 3/4 |

| | |
|------------------------------------|--------------------|
| Tropical Fresh Water Freeboard ... | 0' - 5 1/2" |
| Fresh Water " " ... | 0' - 0 1/4" |
| Tropical " " ... | 0' - 2 1/2" |
| Winter " " ... | 0' - 2 3/4" |
| Winter North Atlantic " " ... | 0' - 8 1/4" |

29 DEC 1938

Africa Shell.

A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.

Trunk

After sloping portion

$$8.25 \times \frac{27.33 + 19.67}{2 \times 29.5} = 6.57'$$

Straight portion

$$65.21 \times \frac{18.33}{29.50} = 40.52'$$

Forward sloping portion

$$24.00 \times \frac{18.33 + 11.00}{2 \times 29.50} = 11.93'$$
$$59.02'$$

SHIPPING OFFICER'S CERTIFICATE
OF TONNAGE
AND
GROSS REGISTERED TONNAGE
OF THE SHIP

Trade of ship INTERNATIONAL.

Names of sister ships ✓

Builder's name and yard number GEORGE BROWN & CO. (MARINE) LTD. YARD No. 207.

Owners SHELL COMPANY OF EAST AFRICA, LD.

Fee £ 8 : 0 : 0.



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