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Clond's Register of Shipping. SURVEYS FOR FREEBOARD.

Index. No. **22967**
(For London Office only.)
7 OCT 1932

GLASGOW REPORT No. 52952

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having *Poop, Bridge and Forecastle*

Port of Survey *Gareloch.*

Date of Survey *5th Oct. 1932.*

Name of Surveyor *James R. Belark.*

Particulars of Classification *+ 100 AT.*
S.S. L.R. No. 3-2.26
S.S. C.F. No. 7-30

(Type of Superstructures.)
Ship's Name *CITY OF KHARTOUM.* Nationality and Port of Registry *British N. Shields.* Official Number *133,310.* Gross Tonnage *6124* Date of Build *1913*
6132 5.
Moulded Dimensions: Length *430.2* Breadth *53.83* Depth *33.58*
Moulded displacement at moulded draught = 85 per cent. of moulded depth *14878* tons
Coefficient of fineness for use with Tables *.788*

Depth for Freeboard (D)
Moulded depth *33.58*
Stringer plate *NOT AVAILABLE* *.04*
Sheathing on exposed deck
 $T \left(\frac{L-S}{L} \right) =$
Depth for Freeboard (D) = *33.62*

Depth correction
(a) Where D is greater than Table depth
(D - Table depth) R = *(33.62 - 28.68) 3 = + 14.82*
(b) Where D is less than Table depth (if allowed)
(Table depth - D) R =
If restricted by superstructures

Round of Beam correction
Moulded Breadth (B) *53.83*
Standard Round of Beam = $\frac{B \times 12}{50} = 12.92$
Ship's Round of Beam = *13.4*
Difference *.33*
Restricted to
Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.33}{4} \left(1 - \frac{.6613}{.3387} \right) = -.03$

DEDUCTION FOR SUPERSTRUCTURES.

| | Mean Covered Length (S) | Equivalent Enclosed Length (S ₁) | Height | Height Correction | Effective Length (E) |
|-------------------------|-------------------------|--|------------|-------------------|----------------------|
| Poop enclosed ... | <i>71.5</i> | <i>71.50</i> | <i>8.0</i> | <i>✓</i> | <i>71.50</i> |
| " overhang ... | | | | | |
| R.Q.D. enclosed ... | | | | | |
| " overhang ... | <i>168.09</i> | <i>168.09</i> | <i>8.0</i> | <i>✓</i> | <i>168.09</i> |
| Bridge enclosed ... | <i>2.91</i> | <i>2.19</i> | | | <i>2.19</i> |
| " overhang aft ... | | | | | |
| " overhang forward ... | | | | | |
| F'cle enclosed ... | <i>42.7</i> | <i>42.70</i> | <i>8.0</i> | <i>✓</i> | <i>42.70</i> |
| " overhang ... | | | | | |
| Trunk aft ... | | | | | |
| " forward ... | | | | | |
| Tonnage opening aft ... | | | | | |
| " " forward ... | | | | | |
| Total ... | <i>285.2</i> | <i>284.48</i> | | | <i>284.48</i> |

Standard Height of Superstructure *7'-6"*
" " R.Q.D. *✓*
Deduction for complete superstructure *42.00*
Percentage covered $\frac{S}{L} = 66.30$
" " $\frac{S_1}{L} = 66.73$
" " $\frac{E}{L} = 66.73$
Percentage from Table, Line A.
(corrected for absence of forecastle (if required))
Percentage from Table, Line B. *56.42*
(corrected for absence of forecastle (if required))
Interpolation for bridge less than .2L (if required) *✓*
Deduction = *42 x .5642 = -23.70*

SHEER CORRECTION.

| Station | Standard Ordinate | S | M | Product | Actual Ordinate | Effective Ordinate | S | M | Product |
|-------------------------------|-------------------|---|--------|---------|-----------------|--------------------|---|--------|---------|
| A.P. ... | 53.02 | 1 | 53.02 | 57.1 | 57.00 | 53.02 | 1 | 53.02 | 53.02 |
| $\frac{1}{8}$ L from A.P. ... | 23.59 | 4 | 94.36 | 22 | 22.51 | 23.59 | 4 | 94.36 | 94.36 |
| $\frac{3}{8}$ L " ... | 5.83 | 2 | 11.66 | 5 | 5.63 | 5.83 | 2 | 11.66 | 11.66 |
| Amidships ... | - | 4 | - | 0 | - | - | 4 | - | - |
| $\frac{3}{8}$ L from F.P. ... | 11.66 | 2 | 23.32 | 11 | 11.35 | 11.35 | 2 | 22.70 | 22.70 |
| $\frac{1}{8}$ L " ... | 47.19 | 4 | 188.76 | 44 | 45.42 | 45.42 | 4 | 181.68 | 181.68 |
| F.P. ... | 106.04 | 1 | 106.04 | 108 | 108.00 | 108.00 | 1 | 108.00 | 108.00 |
| Total ... | | | 477.16 | | | | | 471.42 | 471.42 |

Mean actual sheer aft = *EXCESS* *-100.1%* *VERY SLIGHTLY ABOVE STANDARD.*
Mean standard sheer aft

Mean actual sheer forward = *DEFICIENT.*
Mean standard sheer forward

Length of enclosed superstructure forward of amidships = *✓*
" " aft of " = *✓*

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{5.74}{18} \left(.75 - \frac{.3315}{.4185} \right) = +.13$

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 = *33.62*
Summer freeboard = *6.54*
Moulded draught (d) = *27.08*

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = *6.77 = 6.74*
Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.
Displacement in salt water at summer load water line
 $\Delta = 14066$
Tons per inch immersion at summer load water line
 $T = 46.50$
Deduction = $\frac{\Delta}{40T}$ inches
 $= 7.56 = 7\frac{1}{2}$

TABULAR FREEBOARD corrected for Flush Deck (if required)
Correction for coefficient *7884.68* *1.36* *1.36*

| | + | - |
|--|--------------|--------------|
| Depth Correction ... | <i>14.82</i> | <i>-</i> |
| Deduction for superstructures ... | <i>-</i> | <i>23.70</i> |
| Sheer correction ... | <i>.13</i> | <i>-</i> |
| Round of Beam correction ... | <i>-</i> | <i>.03</i> |
| Correction for Thickness of Deck amidships ... | <i>-</i> | <i>-</i> |
| Other corrections, scantlings, etc. ... | <i>-</i> | <i>-</i> |
| | <i>14.95</i> | <i>23.73</i> |
| Summer Freeboard = | <i>78.62</i> | |

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

| | | | |
|--|-------------|------------------------------------|------------------|
| Tropical Fresh Water Line above Centre of Disc ... | <i>14.4</i> | Tropical Fresh Water Freeboard ... | <i>6'-6"</i> |
| Fresh Water Line " " ... | <i>7.2</i> | Fresh Water " " ... | <i>5'-4"</i> |
| Tropical Line " " ... | <i>6.34</i> | Tropical " " ... | <i>5'-11"</i> |
| Winter Line below " " ... | <i>6.34</i> | Winter " " ... | <i>5'-11.34"</i> |
| Winter North Atlantic Line " " ... | <i>✓</i> | Winter North Atlantic " " ... | <i>7'-1.34"</i> |

8 OCT 1932

4488-0154(112)

MARKING FORM
10 JAN 1936
RECEIVED

MARKING FORM
14 OCT 1932
RECEIVED

Foundation

City of Khartoum

Particulars of fidley, funnel and ventilator coamings:—

Stokehold gratings covered by strong steel hinged flap.
Fidley, funnel and ventilator in good condition. Engine Room
skylight of steel, strongly constructed.
COAL HATCH: 5'6" x 14'0"; 8" B.A. coaming, 2 3/4" brass band F.A., 3" bearing, cleats @ 24",
2 star pulleys.

[illegible]

Particulars of Companionways :—
1 Steel companion 6' x 3½' x 6" high, on Bridge St., leading to E.R., door of Wood,
¾" panels, 15" sill.

[illegible]

| Particulars of Air Pipes in exposed positions on | | 30' x 36" to 40' x 48" ft. - | | Efficient means of closing are provided | | |
|--|--------------|--|------------------------------|---|--------------|---|
| | | freeboard, raised quarter, or superstructure decks:— | | | | |
| 1. | A.P. on poop | 2" dia | 4" to lift to aft bulk (any) | 1 | A.P. on Tole | 2" dia, 5" to lift to F.P. (any). |
| 4 | " " | 2 1/2" " | 5" " " " D.B. | | | Efficient means of closing are provided |
| 4 | " " | 1 1/2" " | 30" " " " " | | | |
| 8 | " " | 2" " | 36" " " " " | | | |

Particulars of Gangway Cargo and Coaling Ports:—

1. Weathertight waling door P. & S. in Bridge road,
5'3" x 3'3", efficiently constructed. ✓

Particulars of Scuppers and Sanitary Discharge Pipes :—

all overboard discharges from enclosed spaces above H₂O₂ have storm valves at ships side. ✓

Particulars of Side Scuttles:—

Tide scuttles in Poop, Bridge and Kk., fitted with hinged deadlights. ✓
Scuttles of substantial construction. ✓



Particulars of Guard Rails :—

Poop and Bridge, 3'6" high, 3 mds, stanchions spaced 4'0"
Tide, 3'3" " , 2 " " "

Steel bulwark on Abd. St. in Wells efficiently constructed.

Particulars of Gangways, Lifelines, etc. :—

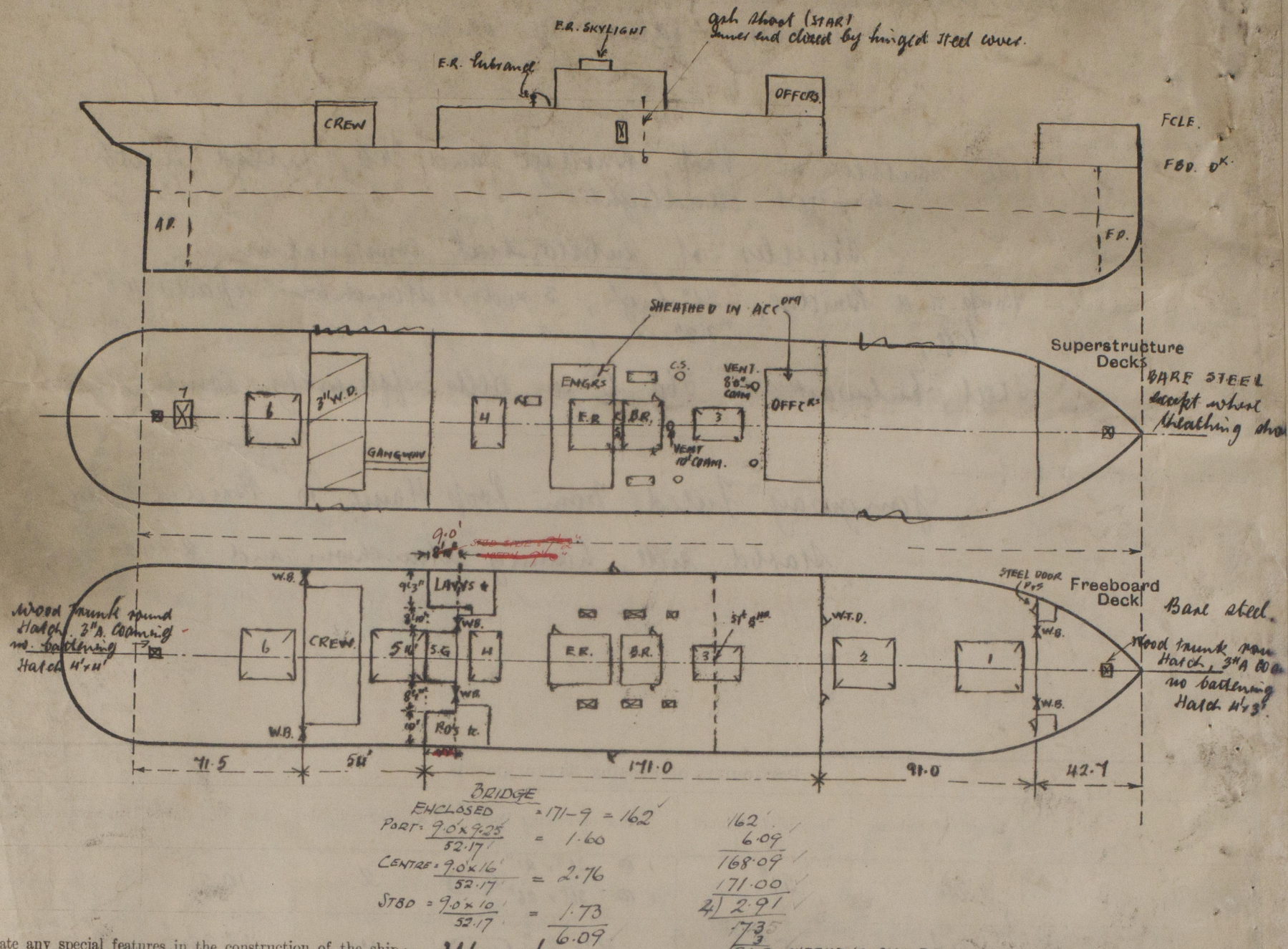
Gangway fitted from poop Hatch to Penicge on starboard side, having stanchions and a war. and provision is provided for rigging lifelines in the forward well

| 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 | 54' | 51" | 1 @ 36" x 21" 1 @ 36" x 26"  | 2 | 10.2. | 11.9 f. |
| Forward Well | 91' | 51" | 36" x 21"  | 4 | 18.35 f. | 18.2 f. |
| State position of each freeing port (F and A. position and height above deck edge) | | | } After Well: — POOP FR. TO AFT END PORT. 5'6", 22'6" } Forward Well: — " " " " " 3'3", 30'3", 45'9", 57'9" } 12" above deck. | | | |
| State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: — | | | 1 Bar and hinged shutter to each port. | | | |
| 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 | ✓ | 30 Vertical | 3" H. | 48" | ✓ | 6' x 3' | 18" | 8' |
| Raised Quarter Deck Bulkhead ... | ✓ | | | | | | | |
| Bridge, After Bulkhead | ✓ | 30 Vertical | 3" H. | 48" | ✓ | 6' x 4' | 18" | 8' |
| Bridge, Forward Bulkhead | ✓ | 44 | 40 | 8 x 3 1/2 x 50 BH | 30" | Brackets | 5' x 3' | 18" |
| Forecastle Bulkhead | ✓ | 26" Vertical | 3 1/2" H. | 42" | ✓ | 6' x 3' | 18" | 8' |
| Trunk, Aft | ✓ | | | | | | | |
| Trunk, Forward | ✓ | | | | | | | |
| Exposed Machinery Casings on Free-board or Raised Quarter Decks ... | ✓ | | | | | | | |
| Exposed Machinery Casings on Super-structure Decks | 34 | 30 | 3 1/2" Flange Bolt 3 1/2 x 3 x 30 SIDES | 36" | Brk. top. | 5' x 2' | 20" | 4' 0" |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances | 30 | 26 | 3 1/2 x 3 x 30 | 36" | ✓ | 5' x 2' | 18" | 8' |
| Deckhouses on Flush Deck Ships ... | ✓ | | | | | | | |

| Particulars of Closing Appliances (state if capable of being manipulated from both sides). | | | | | |
|--|---|--|----------------------------------|--|---|
| Poop Bulkhead | ✓ | 2 ³ / ₄ " Weather Boards | Full height in riveted channels. | | ✓ |
| Raised Quarter Deck Bulkhead ... | ✓ | 2 ³ / ₄ " | " " " " " " | | ✓ |
| Bridge, After Bulkhead | | w. f. Doors, | manipulated both sides. | | ✓ |
| Bridge, Forward Bulkhead | | 2 ³ / ₄ " Weather Boards | Full height in riveted channels. | | ✓ |
| Forecastle Bulkhead | ✓ | Hinged steel doors. | | | |
| Exposed Machinery Casings on Free-board or Raised Quarter Decks ... | | Hinged steel doors. | | | |
| Exposed Machinery Casings on Superstructure Decks | | Hinged steel doors. | | | |
| 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:—



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

ate any special features in the construction of the ship:— The survey was carried out afloat and was confined to the items detailed above. The Newcastle Surveyors have been requested to obtain Displacement Particulars from the Builders and forward them direct to the London Office.

The Owners request the favour of a reply by return, if possible.

Please add the following to list of items to be done:—

- (i) Wood hatch covers to be overhauled and renewed where necessary, and Hatch cover rest bar, and Hatch beam mountings to be re-riveted where required all to satisfactory condition.
- (ii) Vent. Coamings to be scaled and coated.
- (iii) Shutters to firing ports to be repaired so as to swing freely, and appliances for keeping them closed to be renewed.
- (iv) Locks on doors to Eng Room Companion and on doors to E. & B. space in Bridge and
- (v) Flaps over Stokhold gratings to repair. On Bridge to be repaired.

Builder's name and yard number

Palmer J. B. Gay Ltd. 825.

Names of sister ships

NOT KNOWN.

Owners

Ellerman & Bucknall S.S. Coy Ltd.

Fee £

14 9 0

Received by me