

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker					Port of Survey <u>London.</u>	
having <u>Forecastle & Bridge combined</u> and <u>Port.</u> (Type of Superstructures.)					Date of Survey <u>21st, 22nd & 23rd March, 1933</u>	
Ship's Name <u>CITY OF KIMBERLEY.</u>		Nationality and Port of Registry <u>British London.</u>	Official Number <u>1A8579.</u>	Gross Tonnage <u>6281</u>	Date of Build <u>1925-A</u>	
Moulded Dimensions: Length <u>415.83</u> Breadth <u>56.0</u> Depth <u>32.66</u>					Name of Surveyor <u>J.A. Allan</u>	
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>14470</u> tons					Particulars of Classification <u>+100 A1</u>	
Coefficient of fineness for use with Tables <u>.783</u>						
Depth for Freeboard (D)			Depth correction		Round of Beam correction	
Moulded depth <u>32.66</u>			(a) Where D is greater than Table depth (D - Table depth) R = <u>(32.70 - 27.72)3 = +14.94</u>		Moulded Breadth (B) <u>56.0</u>	
Slinger plate <u>.04</u>			(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <u>-</u>		Standard Round of Beam = $\frac{B \times 12}{50} =$ <u>13.44</u>	
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ <u>-</u>			If restricted by superstructures <u>-</u>		Ship's Round of Beam = <u>14.15.00</u>	
Depth for Freeboard (D) = <u>32.70</u>					Difference <u>1.56</u>	
					Restricted to	
					Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{1.56}{4} \times 1.439 = -0.06$	

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	67.9	67.79	8'-0"	-	67.79	Standard Height of Superstructure <u>7.5</u>
" overhang ...						" " R.Q.D. <u>42</u>
R.Q.D. enclosed ...						Deduction for complete superstructure <u>42</u>
" overhang ...						Percentage covered $\frac{S}{L} =$ <u>85.61%</u>
Bridge enclosed ...						" " $\frac{S_1}{L} =$ <u>85.61%</u>
" overhang aft ...						" " $\frac{E}{L} =$ <u>85.61%</u>
" overhang forward ...	288.25	288.25	8'-0"	-	288.25	Percentage from Table, Line A. (corrected for absence of forecastle (if required))
F'cle enclosed ...						Percentage from Table, Line B. <u>82.25</u> (corrected for absence of forecastle (if required))
" overhang ...						Interpolation for bridge less than 2L (if required) <u>✓</u>
" forward ...						Deduction = <u>42 x .8225 = -34.54</u>
Tonnage opening aft ...						
" " forward ...						
Total ...	356.04	356.04			356.04	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	51.58	1		51.58	57.00	57.00	1		57.00	Mean actual shear aft = <u>Excess</u>
$\frac{1}{2}$ L from A.P. ...	22.95	4		91.80	24.88	24.88	4		99.52	Mean actual shear forward = <u>Excess</u>
$\frac{1}{2}$ L " ...	5.67	2		11.34	6.22	6.22	2		12.44	Mean standard shear forward
Amidships ...		4		-	-	-	4		-	Length of enclosed superstructure forward of amidships = <u>.50</u>
$\frac{3}{4}$ L from F.P. ...	11.35	2		22.70	12.39	12.39	2		24.78	" " aft of " = <u>.193</u>
L " ...	45.91	4		183.64	49.57	49.57	4		198.28	
F.P. ...	103.17	1		103.17	114.00	114.00	1		114.00	
Total ...				464.23					506.02	

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

If limited on account of midship superstructure.

$$\frac{41.79}{18} (.75 - .428) = -.75$$

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.

$$\begin{aligned}\text{Depth to Freeboard Deck} &= 32.70 \\ \text{Summer freeboard} &= 5.15 \\ \text{Moulded draught (d)} &= 27.55\end{aligned}$$

Deduction for Tropical freeboard and addition for

$$\text{Winter freeboard} = \frac{d}{4} \text{ inches} = 6.89 = 7$$

Addition for Winter North Atlantic Freeboard (if required) ✓

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$$\Delta = 14409 \text{ tons}$$

Tons per inch immersion at summer load water line

$$T = 48.5$$

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

$$= 7.43 = 7\frac{1}{2}$$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$$\frac{283 + .68}{1.36} = \frac{1.463}{1.36}$$

Depth Correction| Deduction for superstructures | 14.94 | - |
Sheer correction	-	34.54
Round of Beam correction	-	.75
Correction for Thickness of Deck amidships	-	.06
Other corrections, scantlings, etc.	-	-
	14.94	35.35 - 20.41
Summer Freeboard =	61.85	

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

Tropical Fresh Water Line above Centre of Disc ...	14 $\frac{1}{2}$
Fresh Water Line " " " " " "	7 $\frac{1}{2}$
Tropical Line " " " " " "	7
Winter Line below " " " " " "	3
Winter North Atlantic Line " " " " " "	-

Tropical Fresh Water Freeboard ...| Fresh Water " " " " " " | 3 |
Tropical " " " " " "	4
Winter " " " " " "	4
Winter North Atlantic " " " " " "	5

MARKING FORM

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
FORECASTLE & BRIDGE DECK. FREE ² DECK. POOP									
Description of Hatchway			1	2	3	4	5	6	
Dimensions of Hatchway			24' 4" x 14'	22' x 14'	24' x 14'	12' x 14'	39' x 14'	21' x 14'	
COAMINGS	Height above Deck Thickness Sides Stiffeners Brackets, Stays	...	30"	30"	30"	30"	30"	30"	
		...	.50	.70	.66	.50	.68	.50	
		...	AA	AA	AA	AA	AA	AA	
		...	4" x 3" x .186 5 @ 2' dia	12" x 3" x .50 6 @ 2' dia	10" x 3" x .186 3 @ 2' dia	6" x 3" x .186 1 @ 2' dia	12" x 3" x .50 6 @ 2' dia	9" x 3" x .186 3 @ 2' dia	
HATCH BEAMS	Number Spacing Scantling and Sketch	...	A	B	A	2	7	3	
		...	5'-0"	4'-9"	4'-10"	3'-10"	4'-11"	5'-4"	
		...	A x 3 x .186 II	A x 3 x .186 II	A x 3 x .186 II	A x 3 x .186 II	A x 3 x .186 II	A x 3 x .186 II	
		...	17" x .36 A"	16" x .36 A"	12" x .32 A"	12" x .36 A"	17" x .36 A"	13" x .33 A"	
FORE AND AFTERS	Number Spacing Unsupported Lengths Scantling and Sketch	...							
		...							
		...							
		...							
Bearing Surface		...							
HATCH COVERS	Material Thickness How fitted Bearing Surface	...	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	
		...	3"	3"	3"	3"	3"	3"	
		...	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	
		...	3"	3"	3"	3"	3"	3"	
Spacing of Cleats		...	24"	22"	24"	24"	23"	24"	
Number of Tarpaulins		...	3	3	3	3	3	3	

For particulars of
Hatchways in Bridge
see attached report
from Port Mabel

*Are wood fore and afters steel shod at all bearing surfaces?
 Are battens and wedges efficient and in good condition?
 Are tarpaulins in good condition and in accordance with rule requirements?
 Are lashings provided in accordance with rule requirements?

yes.
yes.
yes.
yes.

Particulars of fiddley, funnel and ventilator coamings :—

Sideboard gratings covered by strong steel hinged covers. ✓
Fiddley a funnel vents in efficient condition. ✓
Engine skylight of steel strongly constructed. ✓

Particulars of Flush Bunker Scuttles:—

None!

Particulars of Companionways:— *Boat House.* 2 steel doors in halves 4'-11" x 24" sill 16" treated both sides. ✓
1 " " 4'-11" x 23" sill 19" operated both sides. ✓
1 " " 4'-11" x 22" sill 16" " " " " ✓

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

On Foible bridge deck 1 @ 9" dia. coaming 3'-0" x 3-0 to fore peak.
 " " " 6 @ 25-30 " " 3'-3" x 3-6 " holds = tween decks.
 " " " 6 @ 14"-18 " " 3'-0" x 3-2 " " " "
 " " " 2 @ 28 " " 10'-9" x 3-8 " " " "
 " " " 6 deville posts vents to
 " " " A @ 15' oval double S.N.V. 18" high to E. Room.

In aft well 2 @ 28" dia. coamings 10'-3" x 3-8 to holds = tween.
 On poop deck 5 @ 24 " " 3'-0" x 3-A " " tunnel
 " " house 2 @ 6 " " 2'-7" x 2-5 " tween decks.
 Casing 2 @ 3A " " 8'-0" x 3-2 " hold.
 " 4 @ 2A " " 1A-0" x 3-2 " E Room

Means of closing - water pipes and canvas covers

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

3 C.I. air pipes on foibles Bridge decks 6" dia. 8" high from D.B. Tanks.						2' C.I. air pipes on upper decks 8" dia. 3' 1" high from D.B. tanks									
A ✓	"	"	"	"	7"	B "	"	"	"	"	hoof "	A "	"	"	"
A ✓	"	"	"	"	8½"	B "	"	"	"	"	"	1 "	"	"	"
A ✓	"	"	"	"	2 "	B "	"	"	"	"	"	6 "	"	2-0 "	" setting tanks
A ✓	"	"	"	"	3 "	B "	"	"	"	"	"				
A ✓	"	"	"	"	5 "	B "	"	"	"	"	"				
2	"	"	"	"	8 "	B "	"	"	"	"	"				

All air pipes fitted with wire gauge, except 2" & 3" dia. which can be closed with wood plugs or canvas covers. ✓

Particulars of Gangway Cargo and Coaling Ports:—

2 w.t. cooling doors P. & S. 5'-6" x 3'-4" between Bridge deck & Upper deck.

CITY OF KIMBERLEY

Particulars of Scuppers and Sanitary Discharge Pipes

all discharges from accommodation on bridge deck are above fireboard decks.
" " " " " port led through one common discharge under cruiser stem
and fitted with automatic N.R.V.

Particulars of Side Scuttles:

all scuttles to crew spaces in hull substantially constructed & fitted with hinged deadlights.

Particulars of Guard Rails :-

Rails on forecastle bridge & poop decks 3'-0" high with 3 rods and stanchions spaced 4'-10" apart.

particulars of Gangways, Lifelines, etc. :—

Gangway fitted from roof to bridge, efficiently supported, having
stanchions and 2 steel wires 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
1. Well	59' 79" 60' 3"	4' 3"	2'-10" x 1'-6"	5	21.22	12½ ft
2.						
3.						

State position of each freeing port } After Well:—
(E and A. position and height above deck edge) } Forward Well:—

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—

Additional area where sheer is less than standard.

Diagram showing dimensions and details of the freeing arrangement:

Steel Ringed cover fitted.

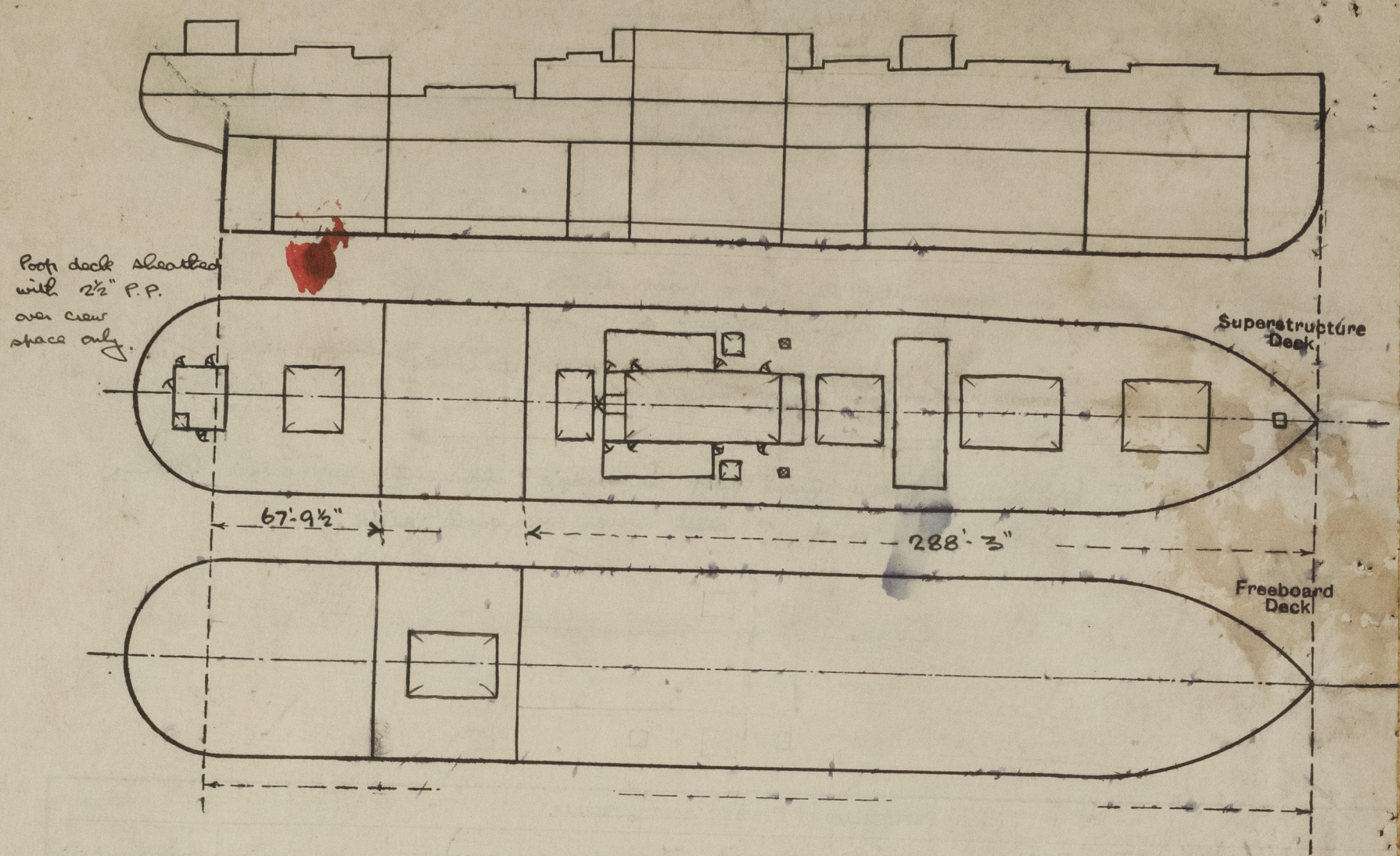
Particulars of Superstructures, Trunks, Casings, Deckhouses, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ... ..	.32 ✓	.32 ✓	7×3×.3A L ✓	28" ✓	Rugs. ✓	5'-0"×4'-0" ✓	2'-3" ✓	8'-0" ✓
Raised Quarter Deck Bulkhead ...	✓							
Bridge, After Bulkhead	5/16	1/4	3×2 1/2×5/16	39"	None	5'-0"×4'-0"	34"	8'-0"
Bridge, Forward Bulkhead	✓							
Forecastle Bulkhead	✓							
Trunk, Aft	✓							
Trunk, Forward	✓							
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	✓							
Exposed Machinery Casings on Superstructure Decks ... ..	.30 ✓	.30 ✓	3×3×.32 ✓	27" ✓	None. ✓	5'-0"×2A" ✓	18" ✓	8'-0" ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	.30 ✓	.25 ✓	3×3×.32 ✓	29" ✓	None. ✓	5'-2"×2A" ✓	19" ✓	8'-0" ✓
Deckhouses on Flush Deck Ships ...	✓							

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

Pop Bulkhead		2 bolted plates 5'-0" x 4'-0" with 2 stiffeners 3"x3"x36 bolts 15" apart ✓
Raised Quarter Deck Bulkhead	✓	
Bridge, After Bulkhead	} Portable steel plates with hook bolts.	
Bridge, Forward Bulkhead		
Forecastle Bulkhead	✓	
Exposed Machinery Casings on Fore- board or Raised Quarter Decks	✓	
Exposed Machinery Casings on Super- structure Decks		2 steel doors in halves 5'-0" x 2A" sill 18" operated both sides ✓ 2 wood doors A'-11" x 22" sill 16" operated both sides ✓
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances		2 " " " " 5'-0" x 2A" " 21" " " " " ✓ 2 double steel door A'-11" x 23" " 21" " " " " ✓
Exhausts on Flush Deck Ships	✓	2 steel doors in halves 5'-2" x 2A" sill 19" operated both sides ✓ 2 " " " " 5'-0" x 2A" " 18" " " " " ✓

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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.



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

Small Hatches. Bunker hatches on Bridge deck 8'-0" x 8'-0" coaming 30" x 40 efficiently battened.
 " " " " 2'-6" x 22" " 30" x 40 "
 Fore Peak hatch on Fore deck 3'-6" x 2'-6" " 15" x 34 w.t. bolted cover & manhole.
 Aft Store " " Poot " 3'-6" x 3'-6" " 22" x 34 hinged steel cover fitted with toggles.
 Coal Shoot " " Casings 17'-0" x 7'-6" " 7" x 3" x 40 B.A. efficiently battened.

85' of MD 27.77 = 27'-9 1/4"
 4 @ 27'-4 1/4" mod
 5 x 48.5
 14300 tons est.
 242
 14542 tons est.
 = 14470 tons mod
 SMD = 27.55 = 27'-6 1/2"
 27'-4 1/4" = 14300
 2 1/4 x 48.5 = 109
 14409

On Fore
 " "
 " "
 " "
 " "
 3 c.i.
 A ✓
 A ✓
 A ✓
 A ✓
 A ✓
 2 ✓

Builder's name and yard number _____

Names of sister ships _____

Owners _____

Fee £ 14 : 9 : 0
 1/4 1/4/32

Received by me _____

Lloyd's Register of Shipping.

COPY OF FREEBOARD REPORT.

Ship's Name *"CITY OF KIMBERLEY"* Official Number *148579.*
 Type *Forecastle & Bridge combined & Poop.*

PARTICULARS OF SUPERSTRUCTURES.

	Mean covered length.	Height.
Poop enclosed - - - - -	<i>67.79'</i>	<i>8.0'</i>
„ overhang - - - - -		
R.Q.D. enclosed - - - - -		
„ overhang - - - - -		
Bridge enclosed - - - - -		
„ overhang aft - - - - -		
„ overhang forward - - - - -	<i>288.25'</i>	<i>8.0'</i>
F'cle enclosed - - - - -		
„ overhang - - - - -		
Trunk aft - - - - -		
„ forward - - - - -		
Tonnage opening aft - - - - -		
„ „ forward - - - - -		
TOTAL - - - - -	<i>356.04'</i>	

COMBINED.



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