

23 JUL 1932

Index. No. **24456**
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

F. 4.

Computation of Freeboard for ~~Steamer~~ *Loop, Bridge & Forecastle* *hull back*

having *4915*

(Type of Superstructures.)

Ship's Name **"COIMBRA"**
handsworth works.

Nationality and Port of Registry *Portuguese*
British
London

Official Number **137809**

Gross Tonnage **4779**

Date of Build **1916**
4 mo

Port of Survey **LISBON.**

Date of Survey **6/6/32 + 13th 14th 17/32.**

Name of Surveyor **G. T. B. SCULLARD.**

Particulars of Classification **+ 100A1.**
SS N.Y.K. No. 3-2,28
Carrying Petroleum in Bulk

Moulded Dimensions: Length **375'** Breadth **51'** Depth **29' 2"**
10038 tons

Moulded displacement at moulded draught = 85 per cent. of moulded depth

Coefficient of fineness for use with Tables **.741**

Depth for Freeboard (D) **29.17**

Moulded depth

Stringer plate

Sheathing on exposed deck
 $T \left(\frac{L-S}{L} \right) =$

Depth for Freeboard (D) = **29.23**

Depth correction

(a) Where D is greater than Table depth
(D - Table depth) R = **(29.23 - 25.0) 2.884 = + 12.20**

(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) **51.0**

Standard Round of Beam = $\frac{B \times 12}{50} =$ **12.24**

Ship's Round of Beam = **13.00**

Difference **76**

Restricted to

Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{76}{4} (1 - .4948) = -10$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	102.66	102.66	8' 0"		102.66
" overhang ...	3.5	1.75			1.75
R.Q.D. enclosed					
" overhang					
Bridge enclosed...	28.25	28.25	8' 0"		28.25
" overhang aft ...	3.5	2.63			2.63
" overhang forward	3.5	1.75			1.75
F'cle enclosed ...	42.50	42.50	8' 0"		42.50
" overhang ...	4.50	4.50			4.50
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward					
" Total ...	189.91	185.54			185.54

Standard Height of Superstructure **7.25**

" " R.Q.D.

Deduction for complete superstructure **40.33**

Percentage covered $\frac{S}{L} =$ **50.65**

" " $\frac{S_1}{L} =$ **49.48**

" " $\frac{E}{L} =$ **49.48**

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

Percentage from Table, Line B.
(corrected for absence of forecastle (if required)) *Tanker 40.48*

Interpolation for bridge less than 2L (if required)

Deduction = **40.33 + 40.48 = - 16.33**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
...	47.50	1		47.50	50.00	47.50	1		47.50
om A.P. ...	21.14	4		84.56	22.12	21.14	4		84.56
" ...	5.23	2		10.46	5.52	5.23	2		10.46
ships ...		4					4		
om F.P. ...	10.45	2		20.90	9.85	9.85	2		19.70
" ...	42.27	4		169.08	39.50	39.50	4		158.00
...	95.00	1		95.00	90.00	90.00	1		90.00
Total ...				427.50					410.22

Mean actual sheer aft = *Excess*

Mean standard sheer aft

Mean actual sheer forward = *Deficient*

Mean standard sheer forward

Length of enclosed superstructure forward of amidships =

" " aft of " =

$\frac{S}{L} = \frac{A}{L}$

$\frac{47.50}{100} = \frac{50.00}{100}$

$\frac{21.14}{100} = \frac{22.12}{100}$

$\frac{5.23}{100} = \frac{5.52}{100}$

$\frac{10.45}{100} = \frac{9.85}{100}$

$\frac{42.27}{100} = \frac{39.50}{100}$

$\frac{95.00}{100} = \frac{90.00}{100}$

$\frac{126.61}{100} = \frac{132.92}{100}$

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{17.28}{18} \left(.75 - .2532 \right) = + .48$

If limited to maximum allowance of 1½ ins. per 100 ft.

Correction for Tropical Freeboard.

Correction for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **29.23**

Summer freeboard = **4.62**

Moulded draught (d) = **24.61**

Correction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = $\frac{24.61}{4} = 6.15 = 6\frac{3}{4}$

Correction for Winter North Atlantic Freeboard (if required) = **3.75** = **3¾**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 10461$

Tons per inch immersion at summer load water line

T = **38.2**

Deduction = $\frac{\Delta}{40T}$ inches = $\frac{10461}{40 \times 38.2} = 6.85$

Correction for Winter North Atlantic Freeboard (if required) = **6¾**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient	+	-
Depth Correction ...	12.20	
Deduction for superstructures ...		16.33
Sheer correction ...	48	
Round of Beam correction ...		10
Correction for Thickness of Deck amidships ...		
Other corrections, scantlings, etc. ...		
	12.68	16.43
Summer Freeboard =	55.60	

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

Tropical Fresh Water Line above Centre of Disc ...	330	Tropical Fresh Water Freeboard ...	10.92
Fresh Water Line " " ...	174	Fresh Water " " ...	1.238
Tropical Line " " ...	156	Tropical " " ...	2.56
Winter Line below " " ...	156	Winter " " ...	1.568
Winter North Atlantic Line " " ...	251	Winter North Atlantic " " ...	1.663

28 JUL 1932

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MARKING FORM
16 JAN 1933
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29 NOV 1932
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Foundation

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Description of Hatchway	N ^o 1.	8 oil hatchways	2 oil.	18 Summer oil.	F. 4. Coalings	G. 4. Coalings	H. oil bunkers	J oil bunkers	K 4. Coalings
Dimensions of Hatchway	7' 1 1/2 x 15' 0"	24' x 7' 6"	7' 6 x 10' 9"	6' 0 x 3' 8"	3' 11 x 17' 5"	5' 11 x 2' 6"	3' 2 x 11' 5"	6' 0 x 2' 6"	2' 11 x 3' 2"
COAMINGS	{	Height above Deck	...	30"	30"	30"	30"	30"	12"	12"	9"
		Thickness { Sides	...	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
		Stiffeners	...	-	-	-	-	-	-	-	-
		Brackets, Stays	...	-	-	-	-	-	-	-	-
HATCH BEAMS	{	Number	...								
		Spacing	...								
		Scantling and Sketch	...								
		Bearing Surface	...								
FORE AND AFTERS	{	Number	...	3							
		Spacing	...	4' 5"							
		Unsupported Lengths	...	7' 7 1/2"							
		Scantling* and Sketch	...								
		Bearing Surface	...								
HATCH COVERS	{	Material	...	Latitegl	h. T.	h. T.	h. P.	h. P.	h. T.	h. T.	h. T.
		Thickness	...	Steel	Steel	Steel	2 3/4"	2 3/4"	Steel	Steel	Grating
		How fitted	...	Covers.	Covers.	Covers.	F & A.	P. S.	Covers.	Covers.	2 1/2"
		Bearing Surface	...				2 1/2"	2 1/2"			2 1/2"
Spacing of Cleats			...	20"			24"	24"			
Number of Tarpaulins			...	2			3.	3.			

*Are wood fore and afters steel shod at all bearing surfaces? No
 Are battens and wedges efficient and in good condition? Yes
 Are tarpaulins in good condition and in accordance with rule requirements? Yes
 Are lashings provided in accordance with rule requirements? No.

Particulars of fiddle, funnel and ventilator coamings:— Stokholm gratings covered with strong steel hinged cover
all ventilators in good condition: Engine room main skylight of steel
strongly constructed.

Particulars of Flush Bunker Scuttles:—

None.

Particulars of Companionways :—

are of Companionways:— One near No 1 Hatchway Port side to Ford Pump room.
of steel 2'6" x 3'0". From 2'3" x 4'3", sill 1'6". Hinged steel door
operated both sides.

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

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:— One 9½" dia. coaming 18½" L. F.P. store. 4- coaming 3½" L. crew quarters. 2- 6" x 18½" L. crew quarters. 1- 6" x 30" L. forward room. On Deck 7- 6" x 18½" L. officers quarters. 1- 9" x 18½" L. refrigerating engine. 1- 9" x 18½" L. bunkers. Wood plugs & canvas covers, L. all ventilators which are strongly constructed.

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

1	C. I.	P	4" x 12" high	6	forepeak tank.	
2	"	"	3 1/2" x 12"	"	cows w.c.	
2	B. I.	"	7" x 33"	"	oil bunkers & have gauge wire over mounds.	
5	Shiel	"	2 1/2" x 15"	"	Double bottom tanks.	all on paper fitted
2	"	"	4" x 6"	"	officers Lavatories.	No cows with wire gauge.

Particulars of Gangway Cargo and Coaling Ports:—

None.

Particulars of Scuppers and Sanitary Discharge Pipes —

4- 4" steel pipes with R.R. valves off from h.c.s 1- 2 1/2" bath + 1- 1 1/2" steel pipe from bath to valves.
2- 1 1/2" scupper from off quarter + 2- 2" from deck, steel pipes, no valves.
2- 4" steel pipes crew h.c. 2- 1 1/2" steel pipes from wash house, no valves.
with R.R. valves. 2- 2" scupper from crew quarters, no valves.

Particulars of Side Scuttles :

All side suttles strongly constructed & have hinged deadlights.

Particulars of Guard Rails :—

Forecastle 3' 8" high, 3 rails 16" apart. Spacing of stanchions 5' 4"
 Loop 3' 9" " 3 " " " " " 4' 5"

Particulars of Gangways, Lifelines, etc. :—

Gangways from post to bridge & bridge to Forecastle, 45" wide, 2 rows of chains 18" apart & stanchions 36" high, spacing 69". Gangway trusses of angles 5" x 3 1/4" x 3/8". Ties, angles 2 1/2" x 2 1/2" x 1/4". Trusses braced to deck. Pillars also, fitted; 2 1/2" dia. & 2 1/4" dia. Gangway beam at heads of trusses "T" iron 6" x 4 1/2" x 3/8".

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	75.76 84-8"	46"	2'6" x 1'9"	5	22	17 72.6
Forward Well	105.5 62-6"	46"	2'3" x 1'9"	5	22	13 101.1

State position of each freeing port ... } After Well:— 17' - 27' - 49' - 66.5' - 81.5'
(F. and A. position and height above deck edge) } Forward Well:— 20' - 35.75' - 47.75' - 58.75' - 63.25' Height above deck 12"
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— 2 bars 4" apart.

Additional area where sheer is less than standard.

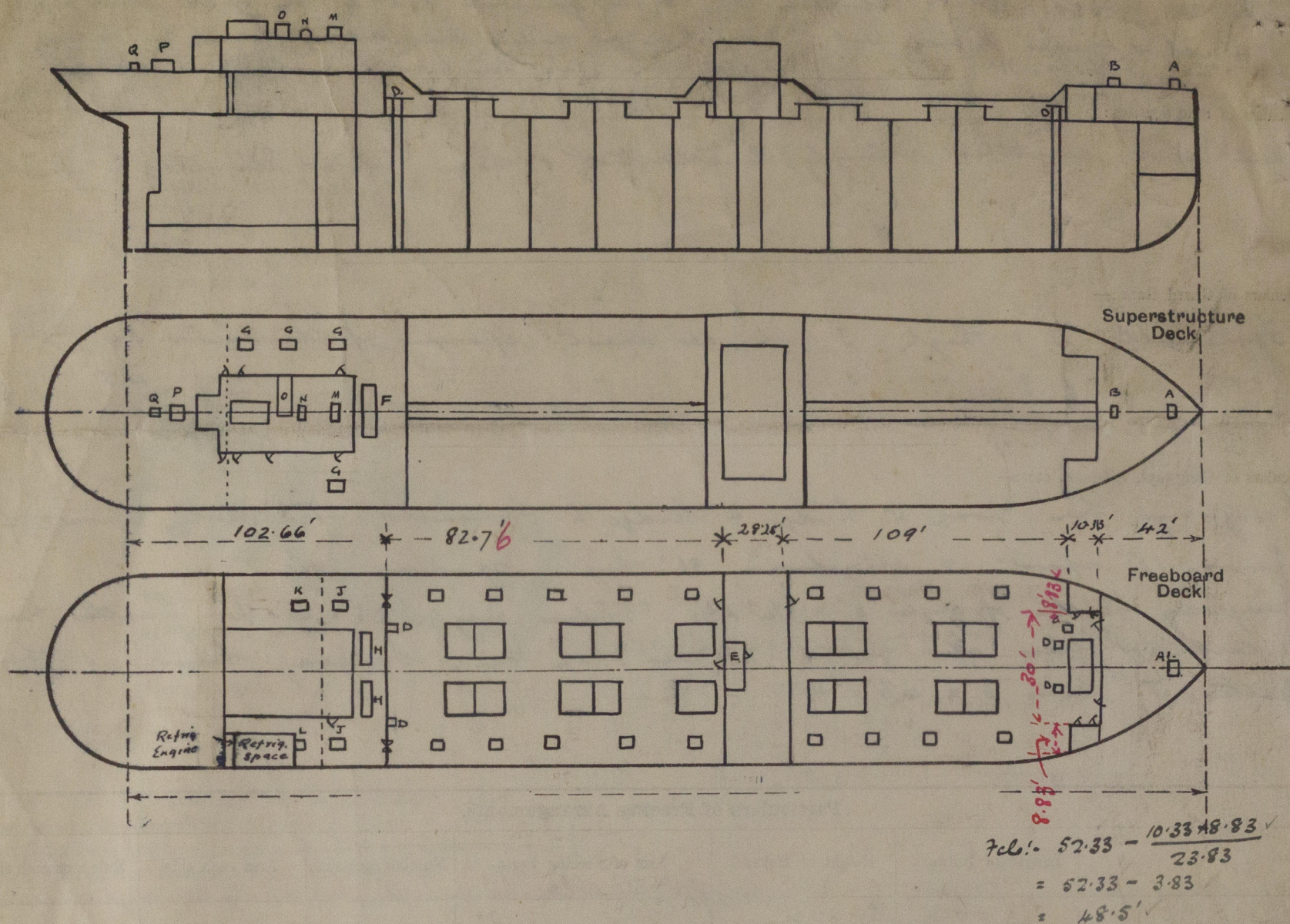
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead		7/16"	B. A. 9 1/2" x 3" x 3/8"	30"	Brackets T & B	2' 6" x 4' 0"	21"	8' 0"
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead		3/8"	A 5 1/2" x 3" x 3/16"	28"		1- 4' 0" x 4' 6" 1- 2' 11" x 4' 6"	24"	8' 0"
Bridge, Forward Bulkhead		1/2"	A 6 1/4" x 3 1/2" x 3/8"	19"	Brackets T & B	4' 0" x 4' 6"	22"	8' 0"
Forecastle Bulkhead		3/8"	A 3 1/2" x 2 1/2" x 3/8"	34"		2' 0" x 4' 11"	19"	8' 0"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free- board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super- structure Decks	1/2"	7/16"	3 1/2" x 3 1/2" x 3/8"	32"		4' 4" 10" x 2' 4" 1- 4' 11" x 2' 8"	20" 24"	8' 0"
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances		3/8"	5 1/2" x 3 1/2" x 3/8"	32"		1- 5' 3" x 2' 0"	16"	8' 0"
Deckhouses on Flush Deck Ships ...								

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

Poop Bulkhead	2 steel plates bolted in place ^{with 4 bolts} "Bolts & nuts 7" pitch. ^{passing through plate and around bulkhead stiffens}
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	2 hinged steel doors, fastened in closed position by clamps outside.
Bridge, Forward Bulkhead	1 " " " " " " " " " " " "
Forecastle Bulkhead	2 tank doors to quarters 1 1/2" thick, operated both sides
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	4 " " " " " " " " " " " " to C.T. & workshop 1 1/2" thick, operated both sides.
Exposed Machinery Casings on Superstructure Becks	2 steel doors to Stokhold & 2 steel doors to Engine Room worked both sides.
Machinery Casings within Superstructure and fitted with Class I Closing Appliances	1 " " " Refrigerated Space operated both sides. 1 1/2" thick doors & 1/2" thick casing.
Deckhouses on Fresh Deck Ships	one steel door to Smoking Boiler operated both sides. (Stbd. side of casing)

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 sketches re.

- A. F/c. Head. 2' 7" x 3' 4". Coaming 26" wood covers 2 1/2". 2 Tarpsaulins.
- A1. Hole in enclosed space in crew's quarters, 2' 7" x 3' 4". ~~wood covers~~ ^{officent wood} ~~wood covers~~.
- B. Skylight to crew's quarters 6' 1" x 3' 8". Coaming 18" Hinged steel covers.
- C. Companion to Ford Pump room.
- D. Watertight Coamings & covers of steel to Cofferdams. 2' 0" x 2' 6". Coamings 30"
- E. After pump room, steel bulkheads.
- F, G, H, J, K. In Hatch list P. 2.
- L. to Coaling 3' 2" x 2' 4". Coaming 9" Iron grating.
- M. On Fidler to Donkey Boiler 5' 2" x 7' 6". Coaming 24". Hinged steel covers. (Posterns 2)
- N. Skylight to galley. 5' 0" x 3' 0" x 8". Hinged steel covers.
- O. Ford Engine Room skylight 4' 2" x 12' 7". Coaming 20" at sides & 37" at middle, with hinged steel covers.
- P. On Deck. Skylight to officers quarters. 5' 11" x 3' 0". Coaming 20" at sides & 36" at middle. Leak covers with glasses. One Tarpsaulin.
- Q. To after store. 3' 0" x 3' 0". Coaming 6". wood covers 3". 2 Tarpsaulins.

Vessel examined afloat. Due to the prevailing seasonal high winds it has not been possible to take the sheers. Vessel proceeding at end of month to Alexandria for S.S. & docking

Builder's name and yard number

Greenock & Grangemouth Ship. Co. Ltd.

Names of sister ships

Owners

Vacuum Oil Coy.

Fee £

Received by me

Esc 21054
Exp 11
27/7/32
109.52 19.4.4



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