

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Poop, BRIDGE & FORECASTLE.

Port of Survey NEWCASTLE

Date of Survey 15th Oct 1932

Name of Surveyor J. H. Bowden

Particulars of Classification +100 A1.

Carrying Petroleum in Bulk
SS. SHELL 101-31

(Type of Superstructures.)

Ship's Name

S/S. "ARISTAN"

Nationality and Port of Registry

BRITISH.
NEWCASTLE.

Official Number

149446.

Gross Tonnage

6401.

Date of Build

1927-11.

Moulded Dimensions: Length 419.5' Breadth 54.7' Depth 34.9'

Moulded displacement at moulded draught = 85 per cent. of moulded depth 15420 tons

Coefficient of fineness for use with Tables .496

Depth for Freeboard (D)

Moulded depth ... 34.9'

Stringer plate06'

Sheathing on exposed deck

 $T \left(\frac{L-S}{L} \right) =$

Depth for Freeboard (D) = 34.81'

Depth correction

(a) Where D is greater than Table depth

(D - Table depth) R =

(34.80 - 24.96) 3 = +20.55'

(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) 54.7'

Standard Round of Beam = $\frac{B \times 12}{50} = 13.13$

Ship's Round of Beam = 18.13

Difference 4.84 in.

Restricted to

Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{4.84^2}{4} \times \left(1 - \frac{S_1}{L} \right) = 40$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	105 ft ✓	105.00	8.0'	-	105.00
" overhang ...	3.25	.12			.12
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	34 ft ✓	34.00	8.0'	-	34.00
" overhang aft ...	3.25	.12			.12
" overhang forward ...	3.25	.12			.12
F'cle enclosed ...	37-3.25	34.25	8.0'	-	34.25
" overhang ...	3.25	.12			.12
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	144.25	146.80			146.80

Standard Height of Superstructure 4.5'

R.Q.D. ✓

Deduction for complete superstructure 42"

Percentage covered $\frac{S}{L} = 42.25$ $\frac{S_1}{L} = 42.15$ $\frac{E}{L} = 42.15$

Percentage from Table, Line A.

(corrected for absence of forecastle (if required))

Percentage from Table, Line B. Tanker 33.15

(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = $42.00 \times 33.15 = -13.92$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	51.95	1	51.95	43.2	43.50	1	43.50		
1/4 L from A.P. ...	23.12	4	92.48	5	5.00	4	20.00		
1/2 L " ...	5.41	2	11.42	Nil	-	2	-		
Amidships ...	-	4	-	Nil	-	4	-		
3/4 L from F.P. ...	11.43	2	22.86	Nil	-	2	-		
3/4 L " ...	46.23	4	184.92	6	6.00	4	24.00		
F.P. ...	103.90	1	103.90	66	66.00	1	66.00		
Total ...			464.53				153.50		

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

If limited on account of midship superstructure.

 $\frac{344.03}{18} \left(\frac{75-212}{2L} \right) = +9.40$

If limited to maximum allowance of 1 1/2 ins. per 100 ft.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 34.81

Summer freeboard = 4.35

Moulded draught (d) = 24.46

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 6.86 = 6 3/4"

Addition for Winter North Atlantic Freeboard (if required) =

 $6 3/4 + 4 1/4 = 11"$

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 14400$

Tons per inch immersion at summer load water line

T = 46.65

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

= 4.42

= 4 1/2"

TABULAR FREEBOARD corrected for Plush Deck (if required)

Correction for coefficient

 $\frac{496+68}{136} = \frac{1.476}{136}$

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

+ -

20.55 -

- 13.92

9.40 -

- 40

- -

- -

- -

29.95 14.62 + 15.33

Summer Freeboard = 88.33

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

Tropical Fresh Water Line above Centre of Disc ... 14.2

Fresh Water Line " " ... 4.2

Tropical Line " " ... 6.2

Winter Line below " " ... 6.2

Winter North Atlantic Line " " ... 11

Tropical Fresh Water Freeboard ... 6.1

Fresh Water " " ... 6.1

Tropical " " ... 6.1

Winter " " ... 6.1

Winter North Atlantic " " ... 8.3

20 OCT 1932

5m.3.32.

MARKING FORM
RECEIVED 24.10.36.Lloyd's Register
RECEIVED Foundation

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS															
FEEDER ← UPPER DECK → POOP DECK → BIDGE DECK															
Description of Hatchway			FORE PEAK	FORE PEAK	CHAIN LKR	FORE HOLD	COFFERDAYS FOR ² 40off	AFT 40off	MAIN CARGO	SUMMER TANKS	SUMMER TANKS	OIL FUEL BUNKERS	A P STORE	INSIDE SALOON BIDGE STORE	
Dimensions of Hatchway			3-0	3-0	2-6	8-10	2-1	2-1	6' x 4'	6' x 3 1/2"	7-6" x 3-6"	3-0	3-0	3-2	
COAMINGS	{	Height above Deck	15"	9"	9"	30"	23	23	16 off	12 off	4 off	4 off	1 off	3-0	
		Thickness { Sides { Ends	.44	x	x	.42	.44	.44	30"	36" to 40"	36" to 40"	24"	18"	3	
			Stiffeners	.44	3/2	3/2	.42	.44	.44	40	40	40	.32	.40	x 3
			Brackets, Stays	✓	x	x	7x38A	=	=	40	40	40	.32	.40	x 3
					BA	BA				✓	✓	✓	✓	✓	.40
HATCH BEAMS	{	Number				ONE									
		Spacing				4-5									
		Scantling and Sketch	✓	✓	✓	1 1/2 PLATE	✓	✓	✓	✓	✓	✓	✓	✓	LADDER
		Bearing Surface				10x30 angles 3x3x40 3/2									
FORE AND AFTERS	{	Number	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	HATCH	
		Spacing													
		Unsupported Lengths													
		Scantling* and Sketch													
		Bearing Surface					MANHOLE COVERS 17" x 11"		COVERS HAVE THREE 4x3x34 OA STIFFENERS	COVERS HAVE THREE 4x3x34 OA STIFFENERS	COVERS HAVE THREE 4x3x34 OA STIFFENERS				
HATCH COVERS	{	Material	WP	WP	WP	WP	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL	WP	GRATING (WOOD)	
		Thickness	2 1/2	2 1/2	2 1/2	2 1/2	.50	.50	.50	.50	.50	.44	2 3/8		
		How fitted	T	T	T	FA	BOLTED	BOLTED	16 TOGGLES	16 TOGGLES	18 TOGGLES	8 TOGGLES	3"		
		Bearing Surface	2 1/2	3"	2 1/2	3"	3"	3"	3"	3"	3"	3"	3"	3"	LB
Spacing of Cleats			24"	18"	12"	28"	6 1/2	6 1/2	13"	14"	14"	16"	22"	✓	
Number of Tarpaulins			2	2	2	3	✓	✓	✓	✓	✓	✓	2	✓	
													4 LB		

*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?

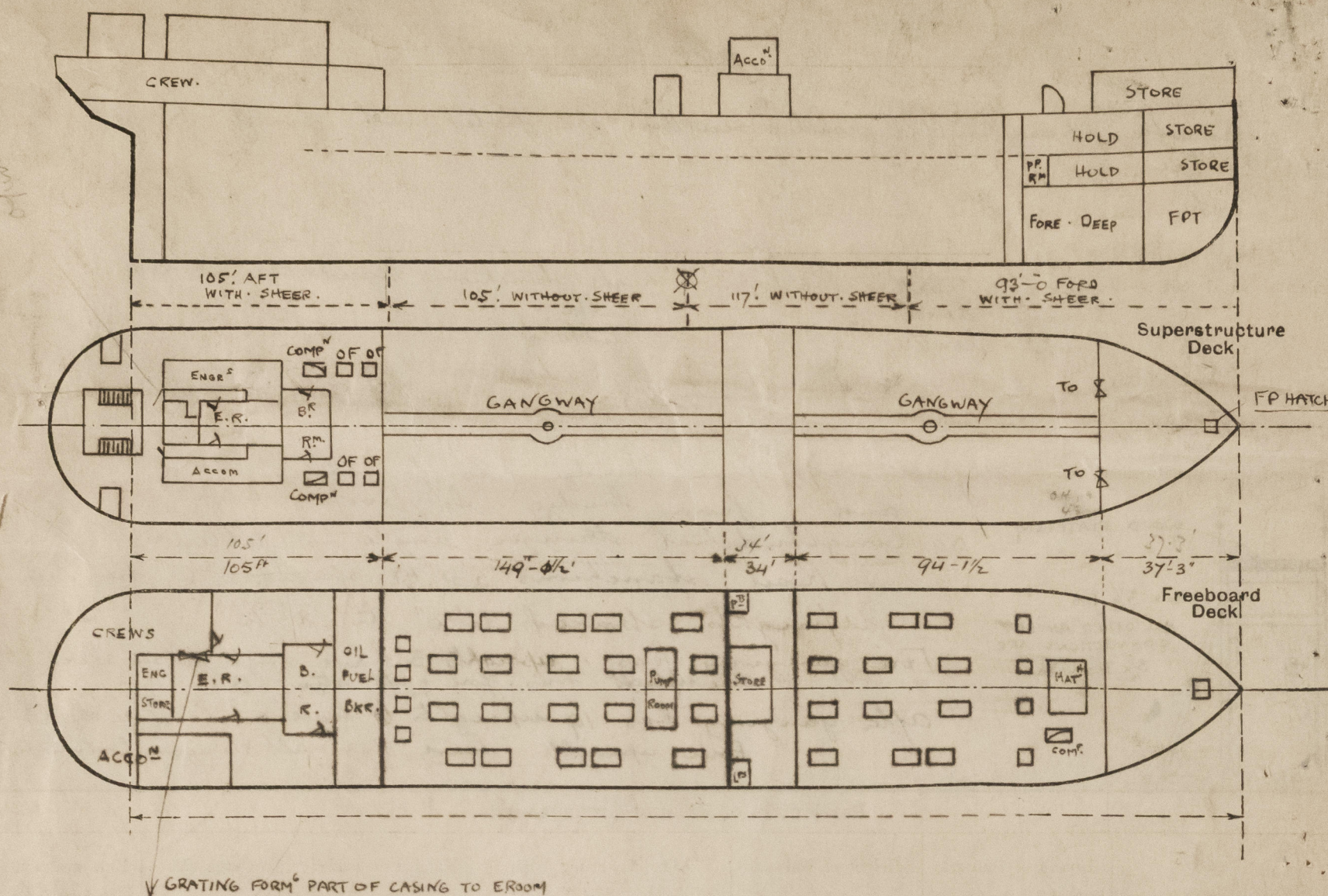
Are lashings provided in accordance with rule requirements?

NONE

yes

yes

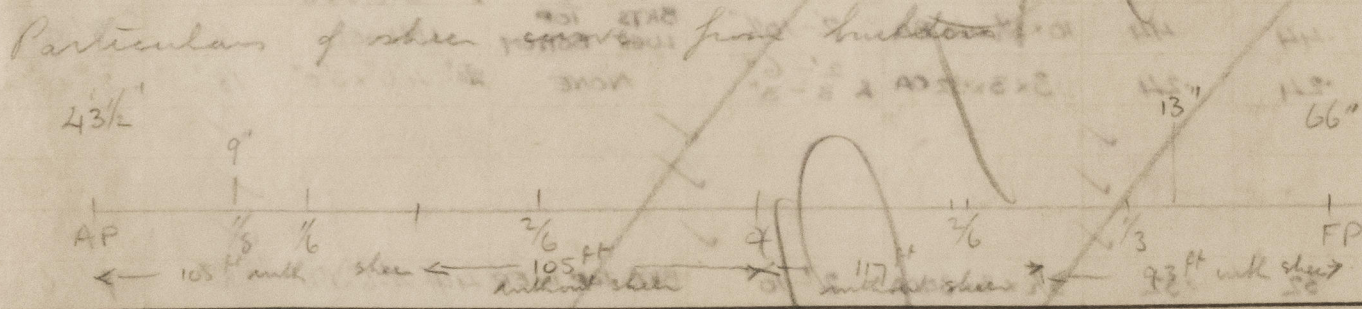
Superstructure bulkheads, trunks, deckhouses, casings, cargo and coal bunkers, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shown on the following sketches:—



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

Vessel has been examined in dry dock and has again proceeded to the buoys to "lay up"

The door handles to companionways, machinery spaces - doors on after end of bridge require repairs



Builder's name and yard number

SHORT, BROS. LTD. SUNDERLAND.

Names of sister ships

OWDERS

HINDUSTAN STEAM SHIPPING CO. LTD. (COMMON BROS. LTD.)

Fee £ 14. : 9. : 0.

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