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California

WR ECT SECTION No 221-1033

15/12/33

Index No. 24541  
(For London Office only.)

Lloyd's Register of Shipping. 573

SURVEYS FOR FREEBOARD. N°103008.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having "Poop: BRIDGE & FORECASTLE."

(Type of Superstructures.)

Ship's Name "ORBITA"

Nationality and Port of Registry BRITISH: LIVERPOOL.

Official Number 13467.

Gross Tonnage 15495.

Date of Build 1915.

Port of Survey LIVERPOOL.

Date of Survey 26/10/33 and subsequently.

Name of Surveyor J.V. Malcolmson

Particulars of Classification 8100A1 with freeboard:

Moulded Dimensions: Length 549.2. Breadth 67.0. Depth 38-7/2. Draught 47.12

Moulded displacement at moulded draught = 85 per cent. of moulded depth 31,800 tons

Coefficient of fineness for use with Tables 755

Depth for Freeboard (D) = 47.22

Depth correction (a) Where D is greater than Table depth (D - Table depth) R = (47.22 - 36.61) 3.00 = + 31.83"

(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) 67.0:

Standard Round of Beam =  $\frac{B \times 12}{50} = 16.08"$

Ship's Round of Beam = 3"

Difference 13.08"

Restricted to

Correction =  $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L}) = \frac{13.08}{4} \times .2715 = + 8.9$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	53.73	53.73	8.5:	/	53.73
" overhang ...	25.97	12.98			12.98
R.Q.D. enclosed ...					
" overhang ...	189.09	189.09			
Bridge enclosed ...	241.4:	241.4:	8.5:	/	189.09
" overhang aft ...	53.63	40.22			40.22
" overhang forward ...	54.3	2.71			2.71
Fore enclosed ...	112.6:	87.73	8.5:	/	87.73
" overhang ...	27.22	13.61			13.61
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	442.80	400.07			400.07

Standard Height of Superstructure 7.5'

" " R.Q.D.

Deduction for complete superstructure 42.00

Percentage covered  $\frac{S}{L} = 80.63\%$

" "  $\frac{S_1}{L} = 72.85\%$

" "  $\frac{E}{L} = 72.85\%$

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

Percentage from Table, Line B. 66.50% (corrected for absence of forecastle (if required))

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

Deduction =  $42.00 \times .665 = - 27.93"$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	64.92	1		64.92	43.	43.00	1		43.00
1/2 L from A.P. ...	28.89	4		115.56	14 1/2	11.50	4		46.00
3/4 L " ...	7.14	2		14.28	3	-3.00	2		-6.00
Amidships ...	/	4		/	/	/	4		/
3/4 L from F.P. ...	14.28	2		28.56	14 1/2	19.00	2		28.56
1/2 L " ...	57.78	4		231.12	36.	58.00	4		231.12
F.P. ...	129.84	1		129.84	121:	121.00	1		129.84
Total ...				584.28					472.52

Mean actual sheer aft = Deficient 4.50.

Mean standard sheer aft

Mean actual sheer forward = Excess.

Mean standard sheer forward

Length of enclosed superstructure forward of amidships = > .10

" " aft of " = > .10

	Standard	Actual
64.92 1	64.92	43.00
28.89 3	86.67	11.50
7.14 3	21.42	-3.00
173.01		68.50

68.50 = 4.50 Standard

Correction = Difference between sums of products 18  $(.75 - \frac{S}{2L}) = \frac{111.76}{18} (.75 - .4031) = + 2.15"$

If limited on account of midship superstructure.

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 = 47.33

Summer freeboard = 11.75

Moulded draught (d) = 35.58

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = 9"

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

Tons per inch immersion at summer load water line

Deduction =  $\frac{\Delta}{40 T}$  inches = 9 3/4"

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient

	+	-
Depth Correction ...	31.83	-
Deduction for superstructures ...	-	27.93
Sheer correction ...	2.15	-
Round of Beam correction ...	.89	-
Correction for Thickness of Deck amidships ...	1.28	-
Other corrections, scantlings, etc. ...	10.19	-
	46.34	27.93

Summer Freeboard = 141.00

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

Tropical Fresh Water Line above Centre of Disc ...	18 3/4"	Tropical Fresh Water Freeboard ...	10-2 1/4"
Fresh Water Line " " ...	9 3/4"	Fresh Water " " ...	10-11 1/4"
Tropical Line " " ...	9"	Tropical " " ...	11-0"
Winter Line below " " ...	9"	Winter " " ...	12-6"
Winter North Atlantic Line " " ...	/	Winter North Atlantic " " ...	/



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Deck

10

Reign

1

Brid

Pyrid



Fore

1

For

S.

Mach

A

1

DEC

26

11

18



Particulars of Scuppers and Sanitary Discharge Pipes:—

All scuppers and sanitary discharge pipes discharging below F.B. deck are fitted with grained storm valves or N.R.V.'s with caulked valves.  
All scuppers and sanitary discharge pipes discharging above F.B. Deck are fitted with N.R.V.'s.

Particulars of Side Scuttles:—

Lower: OK: Stewards: Accom: fitted with hinged portlights with doors and hinged deadlights.  
Main: OK: Hinged port lights with hinged deadlights - except 1<sup>st</sup> CL: Saloon - portable steel blanks.  
Cunning: OK: Hinged deadlights:  
Cargo: spaces No portlights:

Particulars of Guard Rails:—

Shade Deck: forward rails: 3'-9" high. Stanchions: Spaced: 4'-3" apart 5 Rods:  
" " aft: " 3'-9" " " 4'-3" " 4 " and wood top rail.

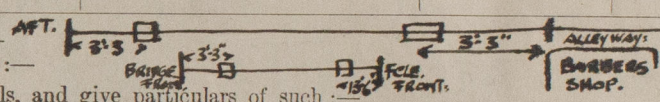
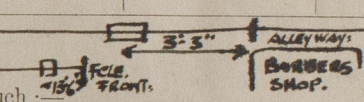
Cunning OK: Bulwarks in fore and after holds, strongly constructed and efficiently stayed.

Particulars of Gangways, Lifelines, etc.:—

Crew have access to forward accommodation without coming out on exposed shade deck.  
" " " " aft " " " " " " " " " " " "

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 ... ..	8'-0"	4'-5"	3'-0" x 1'-0"	4:	12 $\frac{1}{2}$	16 $\frac{1}{2}$
Forward Well ... ..	33'-9"	4'-7 $\frac{1}{2}$ "	3'-0" x 1'-0"	2:	6 $\frac{1}{2}$	10 $\frac{1}{2}$

State position of each freeing port (F. and A. position and height above deck edge) } After Well:—  } Forward Well:—   
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: } Steel hinged flap and 1 Bar.  
Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

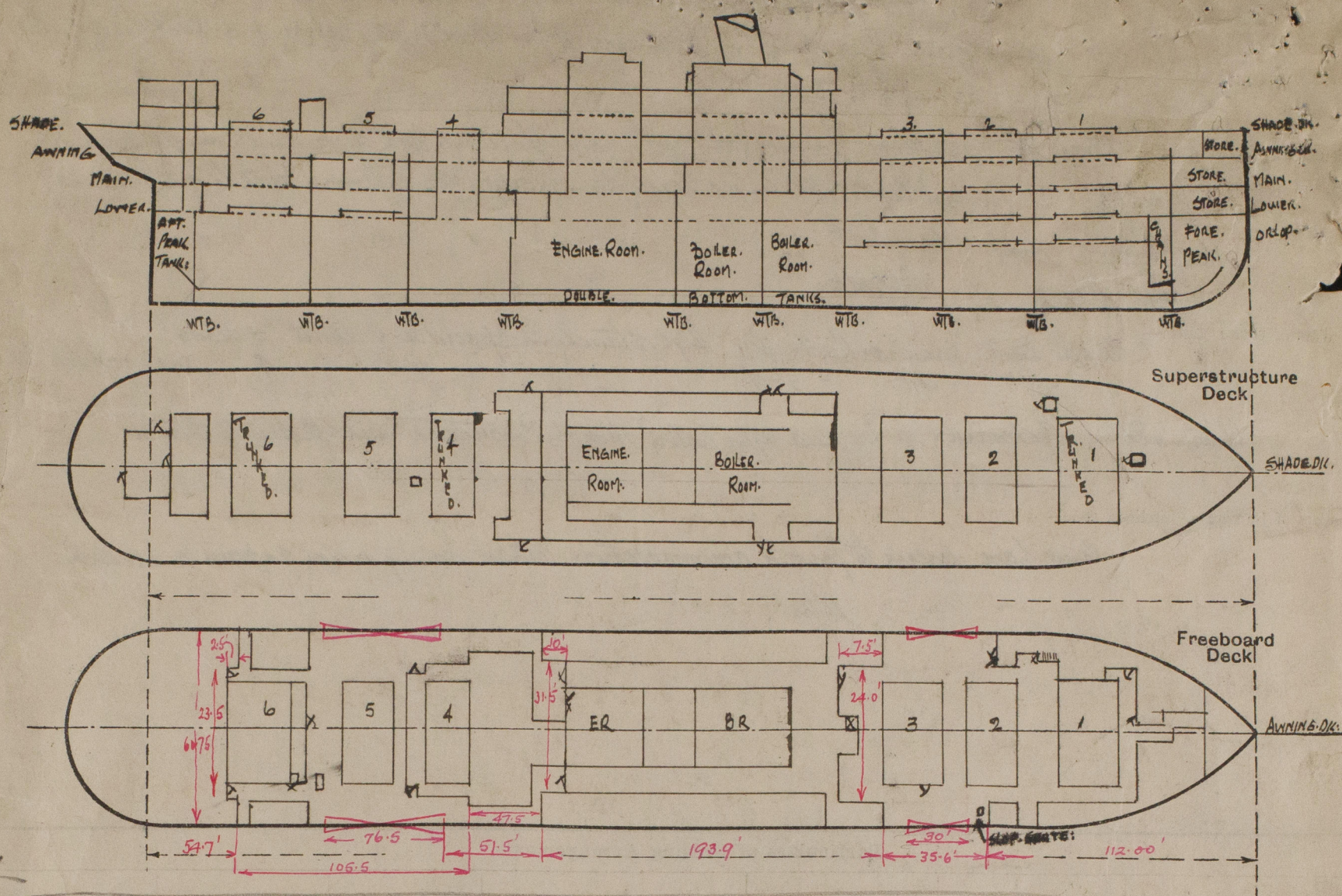
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ... ..	VERTICAL:	5/16:	Wood sheathed not available:			1st and 2nd: 5'-4" x 2'-2"	15"	8'-6"
Raised Quarter Deck Bulkhead ...	✓	✓	✓	✓	✓	✓	✓	✓
Bridge, After Bulkhead ... ..	5/16:	5/16:	Wood sheathed not available:			5'-8" x 4'-5" 5'-8" x 2'-0" 5'-10" x 2'-1"	15 $\frac{1}{2}$ 15 $\frac{1}{2}$ 14	8'-6"
Bridge, Forward Bulkhead ... ..	1/2:	1/2:	"	"	"	5'-9" x 3'-0"	15	8'-6"
Forecastle Bulkhead ... ..	VERT.	1/4	NONE.			For openings see under companion ways.		
Trunk, Aft ... ..	✓	✓	✓	✓	✓	✓	✓	✓
Trunk, Forward ... ..	✓	✓	✓	✓	✓	✓	✓	✓
Machinery Casings on Freeboard or Raised Quarter Decks ...	VERT.	1/4	4 x 2 1/2 x 3/8	2'-6 1/2:	None.	None.	None.	8'-6:
Machinery Casings on Superstructure Decks ... ..	"	1/4:	do.	do.	None.	None.	None.	8'-6:
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	✓	✓	✓	✓	✓	✓	✓	✓
Deckhouses on Flush Deck Ships ...	✓	✓	✓	✓	✓	✓	✓	✓

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

Poop Bulkhead ... ..	Wood doors strongly constructed, capable of being operated from both sides. Locks efficient.
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead ... ..	Wood doors strongly constructed and protected by steel boxes, locks efficient, operated both sides.
Bridge, Forward Bulkhead ... ..	Steel W.T. Doors, strongly constructed, operated from one side with turnbuckles.
Forecastle Bulkhead ... ..	See "Under companion ways."
Machinery Casings on Freeboard or Raised Quarter Decks ...	None: (Access to machinery space by wood door by aft end of Bridge on awning deck. See Bridge end.)
Machinery Casings on Superstructure Decks ... ..	None:
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 shown on the following sketches:—



HEIGHT OF SILL OF LOWEST PORT LIGHT FROM KEEL: 37'-8" (MEASURED FROM BLUE PRINT)

$$\text{Poop} = 54.70 - \frac{23.5 \times 2.5}{60.75} = 53.73' \quad \text{Bridge} = 193.90 - \left\{ \frac{(7.5 \times 24) + (1425 \times 10)}{67} \right\} = 189.09'$$

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

Small Hatch to Fore peak space forward:  
3'6" x 3'0". Coaming: 9", no cleats; Rst Bar 3 1/2".  
fitted with 3" wood plug corn, Tar paulin and  
suitable locking bar.

Aft end No 4 Hatch. Small trunked Hatch on  
shade deck 3'6" x 2'6" x 2'4" coaming. Cleats  
spaced 20" apart wood corn 3" thick: 2"  
Rst Bar and tar paulin with efficient  
Battening arrangement.

STARB. FUNNEL: Slope chute discharging about 5'6"  
below load line, fitted with grass storm valve and  
weighted N.B.V.

Awning Deck Starboard 2'4" x 2'4" x 30"  
coaming, cleats 19" apart 3" wood  
corn. 2" Rst Bar, tar paulin and  
efficient Battening arrangements.

To Aft peak: 3'0" x 2'6" x 10" coaming  
Rst Bar: 2" wood plug 3" thick locking bar  
situated on Awning deck and protected by  
steel corner.

Bridge front Awning Deck leading to No 2.  
Hold. 2'0" x 2'2" x 2'4" coaming, fitted  
with efficient steel flap and locking bar.

THE DETAILS OF BRIDGE FORWARD AND AFTER BULKHEADS ALSO POOP BULKHEAD, RECESSES AND OVERHANGS AT ENDS OF ALL RECTIONS

Will measured afloat:

ARE SIMILAR TO THOSE ON SS. ORDUNA.

VESSEL WILL DRYDOCK BEFORE BEING AGAIN PUT INTO COMMISSION:

DETAILED SKETCHES OF WHICH WERE FORWARDED 9.9.33.

Builder's name and yard number

Harland & Wolff: Ltd: Belfast: Yard No 440:

Names of sister ships

"ORDUNA"

Owners

Pacific Steam Navigation Co:

Fee £

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Received by me



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