

Rpt. C.11.

# WRECK SECTION

## Lloyd's Register of Shipping.

### SURVEYS FOR FREEBOARD.

APR 1932

Index. No.

935

(For London Office only.)

28 JUN 1935

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having

Poop, Bridge &amp; Forecastle.

Port of Survey

Hull

(Type of Superstructures.)

Date of Survey

6/4/32.

Ship's Name

"San Roberto"

Nationality and Port of Registry

British  
London

Official Number

146,632

Gross Tonnage

5890

Date of Build

1922-9

Name of Surveyor

M. Malcolm

Moulded Dimensions: Length

407'-0"

Breadth

52'-0"

Depth

31'-6"

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

12925

tons

Coefficient of fineness for use with Tables

798

Particulars of Classification

+100A1

"Carrying Petroleum in Bulk"

Depth for Freeboard (D)

Moulded depth ... 31.50

Stringer plate ... 0.25

Sheathing on exposed deck

 $T \left( \frac{L-S}{L} \right) =$  none

Depth for Freeboard (D) = 31.55

Depth correction

(a) Where D is greater than Table depth

 $(D - \text{Table depth}) R =$   
 $(31.55 - 27.13) 3 = +13.26$ 

(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)

52

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

12.48

Ship's Round of Beam

12.27

Difference

0.21

Restricted to

Correction = Difference (S) = 0.27

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>i</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	105'	105.00	7'-6"	-	105.00
" overhang ...	none				7'-6"
R.Q.D. enclosed ...					
" overhang ...	35.98	35.98	7'-8"	-	35.98
Bridge enclosed ...	37.3	35.98	7'-8"	-	7'-6"
" overhang aft ...	3.6	3.58			3.58
" overhang forward ...	4.77				
Wale enclosed ...	43.92	43.92	7'-8"	-	43.92
" overhang ...	7.91	3.95			3.95
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...	197.58	192.43			192.43

Standard Height of Superstructure

75

R.Q.D.

Deduction for complete superstructure

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

48.54%

" "  $\frac{S_i}{L} =$ 

47.28%

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

47.28%

Percentage from Table, Line

(corrected for absence of fore and aft superstructures (if required))

Percentage from Table, Line

(corrected for absence of fore and aft superstructures (if required))

Interpolation for bridge less than 31' (if required)

Deduction = 42 x 2828 =

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	50.7	1	50.70	62	62	62	1	62.00	
$\frac{1}{4}$ L from A.P. ...	22.56	4	90.24	28	26.86	26.86	4	107.44	
$\frac{3}{4}$ L " ...	5.58	2	11.16	9.2	6.71	6.71	2	13.42	
Amidships ...	-	4	-	0	-	-	4	-	
$\frac{3}{4}$ L from F.P. ...	11.15	2	22.30	16.6	13.33	13.33	2	26.66	
$\frac{1}{4}$ L " ...	45.12	4	180.48	54.8	53.32	53.32	4	213.28	
F.P. ...	101.4	1	101.40	120	120	120	1	120.00	
Total ...			456.28					542.80	

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) =$  $\frac{86.52}{18} (.75 - .2427) = -2.44$ 

If limited on account of midship superstructure.

If limited to maximum allowance of  $1\frac{1}{2}$  ins.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 31.55

Summer freeboard = 5.37

Moulded draught (d) = 26.18

Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = 6.54 = 6.5

Addition for Winter North Atlantic Freeboard (if required) = 4.07 = 4

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 12670$  tons

Tons per inch immersion at summer load water line

T = 43

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

= 7.37 = 7.4

TABULAR FREEBOARD corrected for Fresh Water (if required)

Correction for coefficient

798 + 6

1.36

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

Summer Freeboard = 4.44

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

Tropical Fresh Water Line above Centre of Disc ...

13.4

Fresh Water Line

7.4

Tropical Line

6.2

Winter Line

6.2

Winter North Atlantic Line

6.2

Tropical Fresh Water Freeboard ...

Fresh Water

Tropical

Winter

Winter North Atlantic

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Description of Hatchway	Main O.T. (16)	Summer tanks (12)	To & after Coffins (8)	at least Pump Room (2)	to Lazarette	Idle dh. Peale	Poop dh. Bunker (2)	To Bunker (2)	to Sullery (2)	to Cabs (2)	to gallery Store (2)
Dimensions of Hatchway	6' x 4'	6' x 3'	2' x 2'	2' x 2'	2' x 2' x 6'	3' x 2'	4' x 2' x 8'	4' x 3' x 10'	2' x 2'	3' x 2' x 8'	5' x 2' x 6'
COAMINGS	Height above Deck	36"	33"	4 @ 36"	36"	24"	30"	30"	30"	10"	30"
	Thickness			4 @ 3/4"		1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
	Sides										
	Ends										
HATCH BEAMS	Stiffeners	none	none	none	none	none	none	none	none	none	none
	Brackets, Stays	none	none	none	none	none	none	none	none	none	none
	Number										
	Spacing										
FORE AND AFTERS	Scantling and Sketch	none	none	none	none	none	none	none	none	none	none
	Bearing Surface										
	Number										
	Spacing										
HATCH COVERS	Unsupported Lengths	none	none	none	none	none	none	none	none	none	none
	Scantling* and Sketch										
	Bearing Surface										
	Material	Steel	Steel	Steel	Steel	W.W.	Steel W.T.	Steel W.T.	Steel W.T.	Steel W.T.	Steel W.T.
HATCH COVERS	Thickness	.55	.5	.45	.45	23"	.45	.44	.37	.37	.44
	How fitted		oil tight	packing		fra.	clips 22'	clips 20'	clips 20'	clips 21'	clips 22'
	Bearing Surface					3"	apart	apart	apart	apart	apart
	Spacing of Cleats (clips)	2'-3"	2'-3"	12"	12"	24"	✓	✓	✓	✓	✓
Number of Taraulins											
✓											
*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? ✓											

Particulars of fiddle, funnel and ventilator coamings:—

Stokehold platings covered by strong steel hinged covers.  
 Fiddle, funnel & ventilators in efficient condition.  
 Engine Room Sky light of Steel, strongly constructed.

Particulars of Flush Bunker Scuttles:—

None

Particulars of Companionways:—

Pump Room Entrance, fore of Bridge — fore well.  
 15' x 8' x height 7'6". Plating .26, Stiffeners 3 x 3 angles & 3 x 3 reverse bars, spaced 24" to 30" apart. One opening 5' x 2', height of sill 18".  
 Closes by steel hinged door with spring lock, closes from both sides.

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

Idle dh: 18 Vents. 7" to 12" dia, all coamings 36" to 39" high x .25 to .32, to accom<sup>sh</sup> & peak store.  
 Poop dh: 4, 11" dia coamings 30" x .32 to R.R.  
 2, 7" 36" x .26 " twin dh. ✓ efficient means of closing provided for all vents on Idle & Poop Decks.  
 To & after wells: 6" S.N. Vents placed on hatch tops, gauge protected.

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

Idle dh: 2, 10" Mushroom Vents. coaming 36" x .40.  
 Poop dh: 2, 22" air pipes 30" high to after peak tank, with screwed caps.  
 2, 12" S.N. " 26" to F.W. tanks. ✓ with means of closing.  
 3, 22" " 18" to R.B.

Particulars of Gangway Cargo and Coaling Ports:—

None



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## Particulars of Scuppers and Sanitary Discharge Pipes —

Scuppers draining Poop Deck 2 1/2" dia pipe, no valve, to sheer 3'-0" below poop deck level.  
 To after wells drained by Scuppers in gunwale bar 4 1/2" x 3".  
 Sanitary discharge pipes below freeboard deck fitted with storm valves at ship's sides.

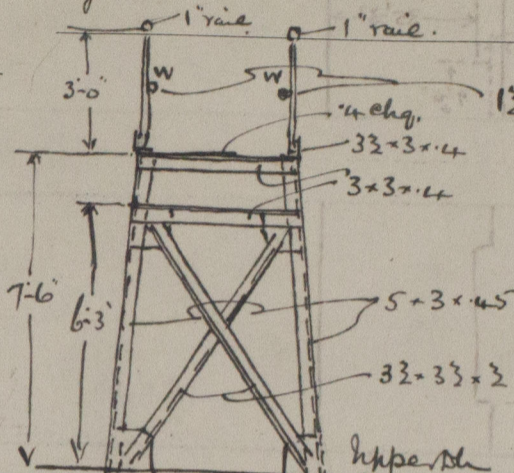
## Particulars of Side Scuttles:

All side scuttles below freeboard deck fitted with hinged deadlights.  
 in poop, bridge & fore & lee tween decks fitted with hinged deadlights.  
 All scuttles of substantial construction.

## Particulars of Guard Rails:—

Steel bulwarks in wells 3'-6" high, stays 6" B.A. 6 feet apart.  
 Guard Rails on fore deck 3'-2" high with 2 rails + stanchions spaced 4'-6" to 5' apart.  
 " Poop 3'-4" " 3 " "  
 " Bridge " " " "

## Particulars of Gangways, Lifelines, etc.:—



12" iron wire being fitted with seizings at each stanchion.

Sketch showing foreaft gangway between fore & Bde. & Bde & Poop.

Supports spaced 9'-6" apart.  
 Stanchions " 4'-0" "

## 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 ...	93.75' <del>97-3</del>	3-6	36 1/4" x 1 1/2'	148	82 sq ft	14 area 82 sq ft
Forward Well ...	115.67' <del>116-6</del>	3-6	5-3" x 1-6' 36" x 21"	1410	100 sq ft	101 sq ft

State position of each freeing port (F. and A. position and height above deck edge)

After Well:—  
 Forward Well:—

Height above deck edge 12".

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— 2 bars horizontally in each.

Additional area where sheer is less than standard.

## Particulars of Superstructures, Trunks, Casings, Deckhouses.

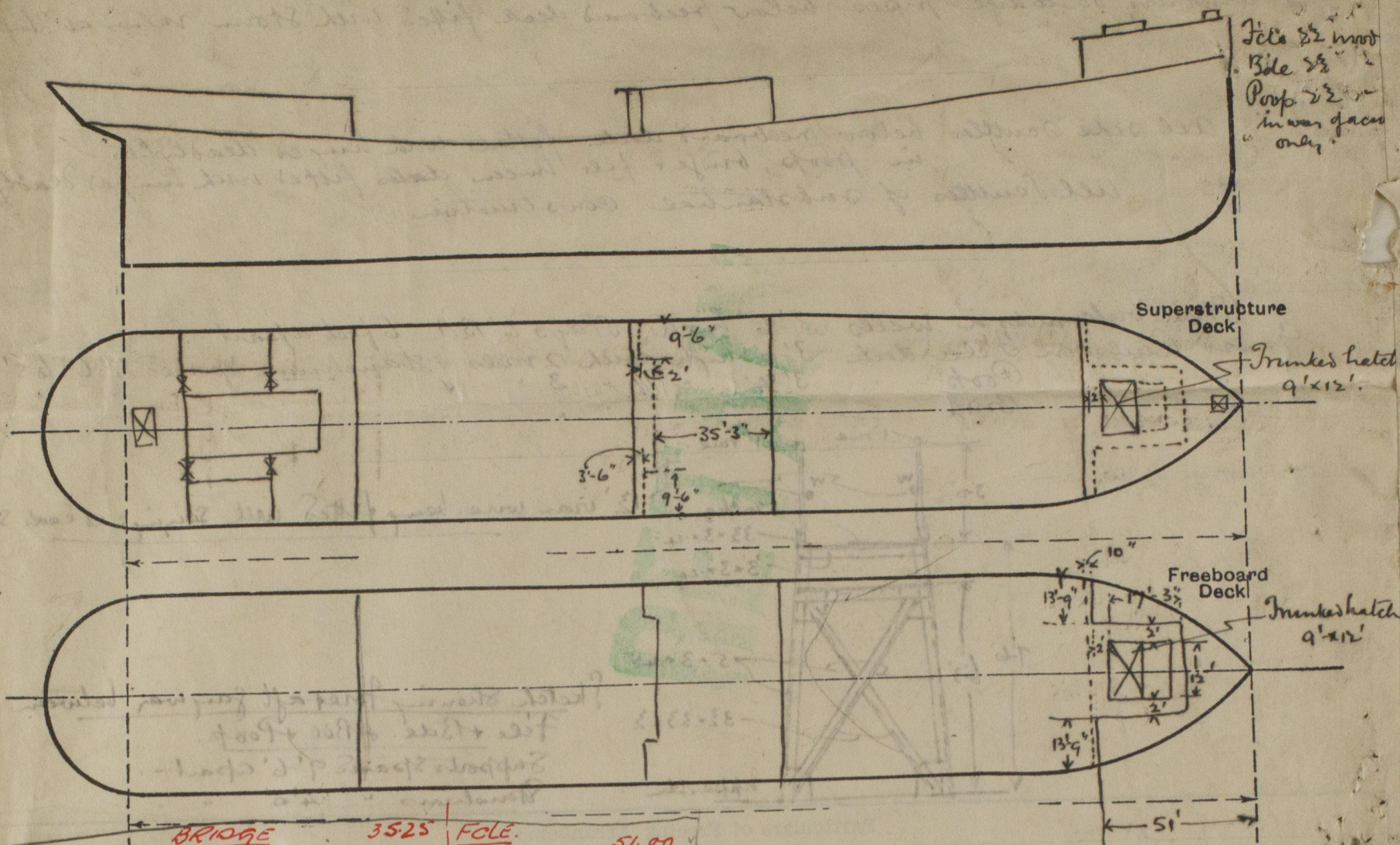
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ...	.40	.40	7x3x36 BA	30"	Blk'd	no openings		7-6
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead ...	.30	.30	12" flange webs 3x3x36 with 3x3 rivs	36"	blts.	2, 4'-9" x 3'-1"	18"	7-6
Bridge, Forward Bulkhead ...	.45	.42	8" BA and 15" webs	30"	blts top & bottom	2, 4'-9" x 2'-6"	18"	7-6
Forecastle Bulkhead ...	.35	.35	3x3x35	30"	none	4'-9" x 2'-1"	18"	7-6
Trunk, Aft ...								
Trunk, Forward ...								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks (Poop) ...	.32	.32	4x3x34	27"-30"	blts, top	4'-9" x 2'-1"	15"	7-6
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	.32	.32	do.	do.	none	1, 5'-3" x 2'-1"	9"	
Deckhouses on Flush Deck Ships ...								

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

Poop Bulkhead ...	no openings
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead ...	3" th. Stormboards in riveted channels.
Bridge, Forward Bulkhead ...	Strong steel hinged W.T. doors with clips 20' apart.
Forecastle Bulkhead ...	Steel hinged doors, spring locks. Yes.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	
Exposed Machinery Casings on Superstructure Decks (Poop) ...	Steel hinged doors, spring locks, yes.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	1 Steel door, hinged, spring lock, yes.
Deckhouses on Flush Deck Ships ...	

# SAN ROBERTO

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:—



BRIDGE	35'2"	FULE	51.00
+ 9.5 x 2	73	1925 x 16	7.08
26	25.98	29.75	43.92
O.H.	40.75	43.5	51.83
	4.77		7.91

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

$$85 \times 31.5 = 26.77 = 26' - 9\frac{3}{4}"$$

$$26 \cdot 11\frac{3}{4}$$

$$\Delta \text{ from scale} = 12990$$

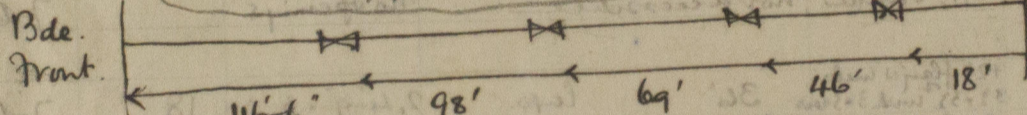
$$= 12925$$

$$P.W. \text{ SMD} = 26.18 = 26' - 2\frac{1}{4}"$$

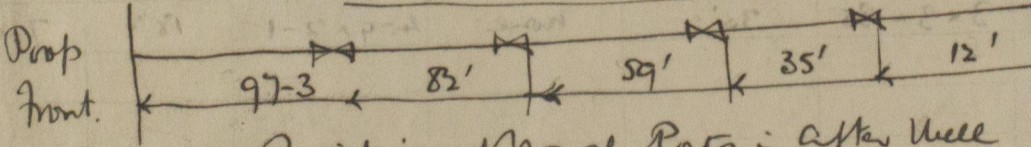
$$26 - 4\frac{3}{4}$$

$$\Delta \text{ from scale } 12670$$

$$TPI = 43$$



Position of wash ports in Fore Well



Position of Wash Ports in After Well

Hatch to trunk on Fide Bde.

9'x12'

Coaming 30'x40'

hony still 72 BA

no stays

1 hatch beam

no f + flos

WW covers 22" ltr. fitted f.ta

3" bearing surface

Cleats 2" apart

2 tarpaulines, fittings in good condition

Trunk plating in Fide between dles. 28 d.

Stiffs 3"x12", 1/2 rounds, spaced 2'-3"

no openings in Fide between dles.

Fide Front

Bde. End

Freeing port area is being increased as shown on the accompanying sketch

Builder's name and yard number

Names of sister ships { San Rosendo San Quirino San Salvador

Owners Eagle Oil & Shipping Co. Ltd

16:13:12:0 Not yet applied for

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