

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No.
(For London Office only.)No. 100231
23 APR 1932

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Shellin Deck (with Tonnage opening) Port of Survey Liverpool

THORPEHALL (Type of Superstructures.) Date of Survey 19th April and Subsequently.

Ship's Name "BAZAN" Nationality and Port of Registry British Manchester Official Number 124289 Gross Tonnage 1257 Date of Build 1910 7th mo.

Name of Surveyor T.R. McIlwenna.

Moulded Dimensions: Length 245' Breadth 35'4" Depth 18'2 3/4"

Moulded displacement at moulded draught = 85 per cent. of moulded depth 2910 tons

Coefficient of fineness for use with Tables .750.

Particulars of Classification + 100 A.1. Shellin Deck with Freeboard.

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>18' 2 3/4"</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(18.26 - 16.33) 1.884</u>	Moulded Breadth (B) <u>35.75</u>
Stringer plate <u>.03</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <u>1.93 3.64.</u>	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{35.75 \times 12}{50} = 8.58$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <u>8 3/4"</u>
Depth for Freeboard (D) = <u>18.26</u>		Difference <u>17.</u>
		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{17}{4} (1 - .9918) = .37(1 - .9918) = .0082$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
<u>SHELTER DECK</u>					
Peep enclosed	<u>241</u>	<u>244.0</u>	<u>7'-3"</u>		<u>241.0</u>
" overhang					
" R.Q.D. enclosed					
" overhang					
Bridge enclosed					
" overhang aft					
" overhang forward					
File enclosed					
" overhang					
Trunk aft					
" forward	<u>4.0</u>				
Tonnage opening aft	<u>4.0</u>	<u>2.00</u>	<u>7'-3"</u>		<u>2.0</u>
" forward					
Total	<u>245.0</u>	<u>243.0</u>			<u>243.0</u>

Standard Height of Superstructure 6.0

" " R.Q.D. 30.5

Deduction for complete superstructure 30.5

Percentage covered $\frac{S}{L} = 1.00$

" " $\frac{S_1}{L} = .9918$

" " $\frac{E}{L} = .9918$

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

Percentage from Table, Line B. 98.99.
(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = 30.19.

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>34.5</u>	1		<u>34.50</u>	<u>48 1/2</u>	<u>50</u>	1		<u>65.00</u>
1/4 L from A.P.	<u>15.35</u>	4		<u>61.40</u>	<u>19 1/2</u>	<u>20.93</u>	4		<u>115.68</u>
1/2 L "	<u>3.80</u>	2		<u>7.60</u>	<u>4</u>	<u>5.22</u>	2		<u>14.30</u>
Amidships	<u>✓</u>	4		<u>✓</u>	<u>0</u>	<u>✓</u>	4		<u>✓</u>
3/4 L from F.P.	<u>7.60</u>	2		<u>15.20</u>	<u>10</u>	<u>8.81</u>	2		<u>21.34</u>
1/4 L "	<u>30.70</u>	4		<u>122.80</u>	<u>34 1/2</u>	<u>35.5</u>	4		<u>172.68</u>
F.P.	<u>69.</u>	1		<u>69.00</u>	<u>83.</u>	<u>82</u>	1		<u>97.00</u>
Total				<u>310.50</u>					<u>486.00</u>

Mean actual sheer aft = Excess
Mean standard sheer aft = Excess

Mean actual sheer forward = Excess
Mean standard sheer forward = Excess

Length of enclosed superstructure forward of amidships = 0.98.

" " aft of " = ✓

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{175.50}{18} \left(.75 - .50 \right) = 2.437$

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 = 18.26

Summer freeboard = 1.33

Moulded draught (d) = 18.43

Winter freeboard = $\frac{d}{4}$ inches = 4.61

Addition for Winter North Atlantic Freeboard (if required) = 2"

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$ 3,440

Tons per inch immersion at summer load water line

$T =$ 17.28

Deduction = $\frac{\Delta}{40T}$ inches = 4.97

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.75 + .68}{1.26} = \frac{1.43}{1.36}$

	+	-
Depth Correction	<u>3.64</u>	
Deduction for superstructures	<u>30.19</u>	
Sheer correction	<u>2.44</u>	
Round of Beam correction		
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc.	<u>3.64</u>	
	<u>32.63</u>	

Summer Freeboard = 3.41

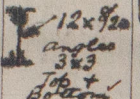
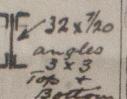


SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:—

Tropical Fresh Water Line above Centre of Disc	<u>7"</u>	Tropical Fresh Water Freeboard	<u>3.92</u>
Fresh Water Line " "	<u>5"</u>	Fresh Water " "	<u>3.1</u>
Tropical Line " "	<u>2"</u>	Tropical " "	<u>2.2</u>
Winter Line below " "	<u>4 1/2"</u>	Winter " "	<u>6.8 1/2</u>
Winter North Atlantic Line " "	<u>6 1/2"</u>	Winter North Atlantic " "	<u>8.10 1/2</u>

28 APR 1932

WS10-0213-1/2

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS													
FREEBOARD DECK							SHUTTER DECK						
Description of Hatchway	1 st	2 nd	2A nd	3 rd	4 th	1 st	2 nd	2A nd	3 rd	4 th	
Dimensions of Hatchway	15'4" x 12'	19'2" x 13'11"	6'5" x 13'11"	17'4" x 13'11"	13'8" x 12'	15'4" x 12'	19'2" x 13'11"	6'8" x 10'	17'4" x 13'11"	13'8" x 12'	
COAMINGS	{	Height above Deck	13"	15"	9" BA	15"	13"	31"	31"	31"	31"	31"	
		Thickness {	Sides	9/20	9/20	✓	9/20	9/20	3/8	3/8	3/8	3/8	3/8
			Ends	7/20	7/20	✓	7/20	7/20	5/16	5/16	5/16	5/16	5/16
		Stiffeners	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Brackets, Stays	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
HATCH BEAMS	{	Number	1					1					
		Spacing	midway					midway					
		Scantling and Sketch		As No. 1	As No. 1	As No. 1	As No. 1		As No. 1	8" BA 3x3	As No. 1	As No. 1	
Bearing Surface	...	1" (See Sketch)					1" (See Sketch)		1 1/2"				
FORE AND AFTERS	{	Number	3	3	3	3	3	3	3		3	3	
		Spacing	3'-0"	3'-6"	3'-6"	3'-6"	3'-0"	3'-0"	3'-6"		3'-6"	3'-0"	
		Unsupported Lengths	7'-3"	9'-2"	6'-1"	8'-3"	6'-5"	7'-3"	9'-2"		8'-3"	6'-5"	
		Scantling* and Sketch	7"x7" Centre 7"x6" Sides 	As No. 1	As No. 1	As No. 1	As No. 1	7"x7" Centre 7"x6" Sides 	As No. 1	NONE	As No. 1	As No. 1	
		Bearing Surface	2"					2"					
HATCH COVERS	{	Material	Pine					Pine					
		Thickness	2 3/4"					2 3/4"					
		Bearing Surface	as above	As No. 1	As No. 1	As No. 1	As No. 1	as above	As No. 1	As No. 1	As No. 1	As No. 1	
Spacing of Cleats	...	25"	25"	22"	23"	22"	25"	25"	22"	23"	22"		
Number of Tarpaulins	...	2	2	2	2	2	3	3	2	3	3		
*Are wood fore and afters steel shod at all bearing surfaces? <u>no</u>													
Are battens and wedges efficient and in good condition? <u>yes</u>													
Are tarpaulins in good condition and in accordance with rule requirements? <u>yes</u>													
Are lashings provided in accordance with rule requirements? <u>yes</u>													

Particulars of fiddley, funnel and ventilator coamings:—

Fiddley, Tunnel + vent Coamingo are in efficient condition ✓
Strong Steel covers are fitted over Fiddley Gratings ✓
S.R. Skylight of Steel Strongly Constructed. x

Particulars of Flush Bunker Scuttles:—

none. ✓

Particulars of Companionways :—

One Steel Companionway on Skeller Deck aft leading to
Crew Space on Freeboard Deck.
Opening 4'-3" x 2'-0" Sill 16" above wood Deck covered by
wood Door operable from both sides. ✓

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

SHELTER DECK

2 @ 17 1/2	dia	36" Cug x 5/16	1/4 No 4 Hold	✓
5 @ 8"	"	18 " " 3/16	" crew below	✓
2 @ 18"	"	10 ft x 3/4	plating 1/4 Hold (in way of aft mast Bernick Table)	efficiently secured ✓
2 @ 18"	"	"	"	"
6 @ 17 1/2	"	36" Cug x 5/16	1/4 No 1, 2 + 3 " Holds	✓
1 @ 8"	"	15 " x 1/8"	1/4 fore Peak	✓

Wood Plugs & Canvas Covers for Ventilators ✓

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

SHELTER DECK 2 C1 2 1/2 dia 18 1/2" 1/2 lip 1/2 No 1 DB Tank -
 2 " " 18 1/2 " " " No 2 " " (Starboard side) -
 1 pipe 1 1/2 " 18 1/2 " " " No 3 " " (Port side) -
 1 C1 2 1/2 " 18 1/2 " " " No 3 " " {These are primaries filling pipes -
 2 C1 2 1/2 " 13 " " " No 3 " " with screwed caps -
 1 C1 2 1/2 " 18 1/2 " " " No 14 " " -

Air pipes supplied
with effluent on
of closing

Particulars of ~~Gangway~~ ^{HATCHES} Cargo and Coaling Ports:—

HATCHES & SMALL HATCHES:—

FREEBOARD DECK (BUNKER
HATCHES)

SHELTER DECK (BUNKER MATCHES)

4 @ 7'-7" x 2'-6" 9/2 B.A. Cmg.
2 1/2 wood covers 1 1/2 Bearing
cleats 21" apart

2 @ 10'4" x 2'6" 18" Cing x 5 1/16"
2 1/2 wood covers 1 1/2 x 1 1/4 bearing
cleat 20" apart
3 Jarpaulins ✓

CASING TOP (BUNKER HATCH)

1 @ 3'-3" x 10'-4" 7" BQ. Aug.
2 3/4 wood covers 1 1/4 bearing
Cleats' ends 24"
" Sides 30"
2 Sarpaulins ✓

SHELTER DECK FOR
HATCH TO STORE

3'-6 x 1'-11 Cmg 19"x.

2 1/2 wood covers 2"

2020

HATCH TO FORE P

2'-0" Square 3" angle
2 1/4 wood covers 2 3/4

oundation

Confession

Thorpshall

Ex Bazar

Particulars of Scuppers and Sanitary Discharge Pipes

Sanitary Discharges are all fitted with Storm Valves at Ship's Side ✓
Scuppers from Shellin Deck + ~~Freeboard Deck~~ have no Storm valves + discharge immediately below Deck (collinson type)

~~Freeboard Deck~~ 5" screw down valve fitted on each side of tonnage well, capable of being controlled from shelter deck.

Particulars of Side Scuttles:

No side scuttles below freeboard Deck.
Side scuttles between 1st Deck + Shellin Deck are of substantial construction + fitted with Hinged Deadlights ✓

Particulars of Guard Rails:—
on Shellin Deck

3'-0 high 2 Rails Stanchions spaced 5'-0 apart. ✓

Particulars of Gangways, Lifelines, etc.:

None. ✓

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 TONNAGE OPENING ...	✓	✓	3'-0 x 2'-4 now closed by riveted plates	1	6.99 sq feet	✓
Forward Well ...						

State position of each freeing port ... { After Well:— In Tonnage opening Sill 22" ✓
(F. 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:— Hinged Steel Shutters ✓

Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

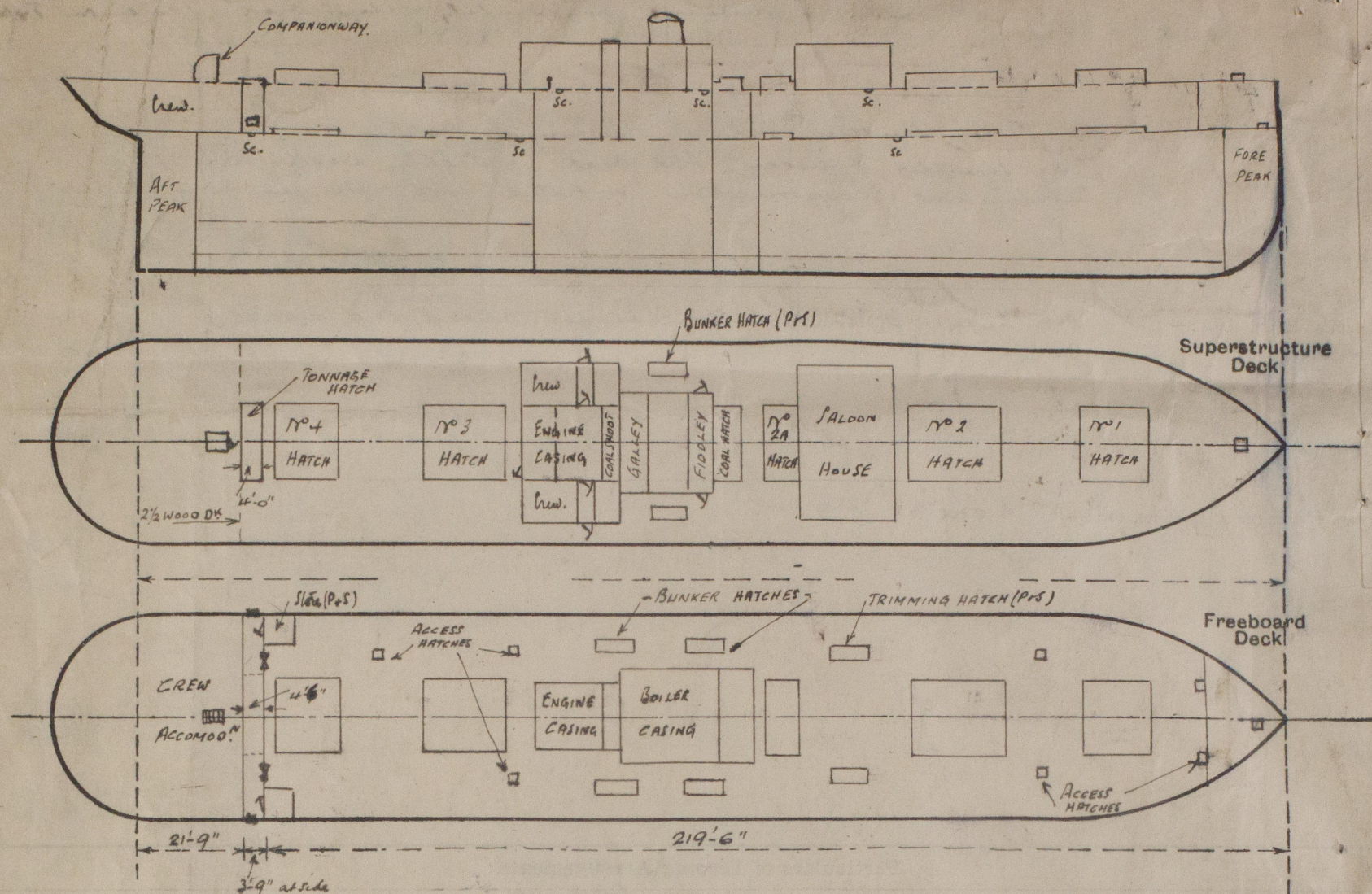
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Reop Bulkhead AFTER END TONNAGE OPENING	✓	1/4 ✓	3/4 x 3 x .30 + 3/4 flanges	30" ✓	None ✓	None ✓	✓	7'-3"
Raised Quarter Deck Bulkhead ...	✓							
Bridge, After Bulkhead FORD END TONNAGE OPENING	✓	5/16 ✓	3/2 x 3/2 x .30	30" ✓	None ✓	5'-0 x 3'-0 4'-8 x 2'-1	18 19	7'-3
Bridge, Forward Bulkhead ...								
Forecastle Bulkhead ...								
Trunk, Aft ...								
Trunk, Forward ...								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	✓	1/4 ✓	3" flanges - do.	3'-9" 4'-2 max ✓	None - do.	4'-6 x 2'-0 5'-3 x 2'-3	18 18	7'-0 S.R. Entrance
Exposed Machinery Casings on Superstructure Decks ...	5/16	1/4		3'-6 ✓	Bracket Top	4'-0 x 10 x 2'-10"	21"	7'-0 P.R. Entrance
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	5/16 ✓	1/4 ✓	3 x 3 x .30	2'-6 ✓	None	None	✓	7'-3"
Deckhouses on Flush Deck Ships ...	✓							

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

Reop Bulkhead AFTER END TONNAGE OPENING	None.
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead FORD END TONNAGE OPENING	Openings 5'-0 x 3'-0 Covered by 2 1/2" wood Sheeting boards full height in Steel Riveted channels - 4'-8 x 2'-1 1/2" Stairs Covered by Strong Steel Doors operated from both sides ✓
Bridge, Forward Bulkhead ...	✓
Forecastle Bulkhead ... SHELTER DECK	✓
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	Strong Steel Doors operated from both sides (Door at aft end S.O. casing in Italics) ✓
Exposed Machinery Casings on Superstructure Decks ...	Wood Doors operated from both sides ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	None
Deckhouses on Flush Deck Ships ...	✓

WS10-0218 1/2

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



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

$D = 13.4$
 $75\frac{1}{2} = 13.67 = 13'-9\frac{1}{2}" \Delta = 2525$ Register
 Deadweight 13.8 $\frac{14.25}{11.00}$ Rightweight
 $85\frac{1}{2} D = 15.73$
 15.93 Deadwt = $\frac{1825}{2925}$
 Gross tonnage $\frac{15}{2910}$ Tons

Builder's name and yard number

Sunderland Shipbuilders Co Ltd No 257.

Names of sister ships

Owners

MacAndrews & Co Ltd.

Fee £

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Received by me



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