

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

15974

Computation of Freeboard for Steamer, Sailing Ship, Tanker  
having POOP, TRUNK, BRIDGE, TRUNK, FORECASTLE

(Type of Superstructures.)

Ship's Name <u>FURNESS S.B. Co</u> <u>N: 266</u> <u>"BACHAQUERO"</u>	Nationality and Port of Registry <u>BRITISH</u> <u>LONDON</u>	Official Number <u>165486</u>	Gross Tonnage <u>4890</u> <u>APPROX - CONTEMPLATED</u>	Date of Build <u>1937</u>
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Moulded Dimensions: Length 365.25 Breadth 64.00 Depth 18.00  
Moulded displacement at moulded draught = 85 per cent. of moulded depth 8575 tons  
Coefficient of fineness for use with Tables .839

Port of Survey MIDDLESBROUGH  
Date of Survey WHILE BUILDING  
Name of Surveyor J. Britton  
Particulars of Classification +100 A1.  
CARRYING PETROLEUM IN BULK.

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... <u>18.00</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>✓</u>	Moulded Breadth (B) <u>64.00</u> ✓
Stringer plate ... <u>.5</u> ✓ <u>-04</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <u>(24.35 - 18.04) 2.809 = -17.72</u> ✓	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{64 \times 12}{50} = 15.36$ ✓
Sheathing on exposed deck T $\left(\frac{L-S}{L}\right) =$	If restricted by superstructures <u>✓</u>	Ship's Round of Beam = <u>15.375</u> ✓
Depth for Freeboard (D) = <u>18.04</u>		Difference <u>EXCESS</u> = <u>.015</u> ✓
		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{.015}{4} \times 2682 = \text{NIL}$ ✓

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<u>88.75</u>	<u>88.75</u>	<u>8-0</u>		<u>88.75</u>
" overhang ...	<u>.50</u>	<u>.25</u>			<u>.25</u>
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed...	<u>36.00</u>	<u>36.00</u>	<u>8-0</u>	<u>.9</u>	<u>32.40</u>
" overhang aft ...	<u>.25</u>	<u>.19</u>			<u>.19</u>
" overhang forward	<u>.25</u>	<u>.12</u>			<u>.12</u>
F'cle enclosed ...	<u>36.50</u>	<u>36.50</u>	<u>8-0</u>		<u>36.50</u>
" overhang ...	<u>.25</u>	<u>.12</u>			<u>.12</u>
Trunk aft ...		<u>70.64</u>	<u>8-0</u>	<u>.9</u>	<u>63.57</u>
" forward ...		<u>34.69</u>	<u>8-0</u>		<u>34.69</u>
Tonnage opening aft ...					
" forward					
Total ...	<u>162.50</u>	<u>267.26</u>			<u>256.59</u>

Standard Height of Superstructure 7.15 ✓  
" " R.Q.D. ✓  
Deduction for complete superstructure 39.68 ✓  
Percentage covered  $\frac{S}{L} = \frac{267.26}{600} = 44.49$  ✓  
"  $\frac{S_1}{L} = \frac{256.59}{600} = 73.18$  ✓  
"  $\frac{E}{L} = \frac{256.59}{600} = 70.25$  ✓  
Percentage from Table, Line A. TANKER - 63.31 ✓  
(corrected for absence of forecastle (if required))  
Percentage from Table, Line B.  
(corrected for absence of forecastle (if required))  
Interpolation for bridge less than .2L (if required)  
Deduction = 39.68 × .6331 = -25.12 ✓

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<u>46.52</u>	1		<u>46.52</u>	<u>47.625</u>	<u>47.625</u>	1		<u>47.625</u>
$\frac{1}{6}$ L from A.P. ...	<u>20.70</u>	4		<u>82.80</u>	<u>20.25</u>	<u>20.25</u>	4		<u>81.00</u>
$\frac{2}{6}$ L " ...	<u>5.12</u>	2		<u>10.24</u>	<u>4.625</u>	<u>4.625</u>	2		<u>9.24</u>
Amidships ...	<u>0</u>	4		<u>0</u>	<u>0</u>	<u>0</u>	4		<u>0</u>
$\frac{3}{6}$ L from F.P. ...	<u>10.24</u>	2		<u>20.48</u>	<u>10.25</u>	<u>10.25</u>	2		<u>20.50</u>
$\frac{4}{6}$ L " ...	<u>41.41</u>	4		<u>165.64</u>	<u>41.625</u>	<u>41.625</u>	4		<u>166.50</u>
F.P. ...	<u>93.05</u>	1		<u>93.05</u>	<u>98.75</u>	<u>98.75</u>	1		<u>98.75</u>
Total ...				<u>418.73</u>					<u>423.59</u>

Mean actual sheer aft = DEFICIENT 75% STANDARD  
Mean standard sheer aft

Mean actual sheer forward = EXCESS ✓  
Mean standard sheer forward

Length of enclosed superstructure forward of amidships = ✓  
" " aft of " = TANKER ✓

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{.75 - S}{2L} \right) = \frac{4.86 - 8.95}{18} (.75 - .2225) = -.14$  ✓

If limited on account of midship superstructure.

If limited to maximum allowance of  $1\frac{1}{2}$  ins. per 100 ft.

## Deduction for Tropical Freeboard.

## Addition for Winter and Winter North Atlantic Freeboard.

Ft.  
Depth to Freeboard Deck = 18.04  
Summer freeboard = 1.50  
Moulded draught (d) = 16.54

## Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = 4.13 = 4 $\frac{1}{4}$

Addition for Winter North Atlantic Freeboard (if required) = 3.65 + 4.13 = 7 $\frac{3}{4}$

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

Δ =

Tons per inch immersion at summer load water line

T =

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

$\frac{\Delta}{4} = 4\frac{1}{4}$

## TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

54.66 ✓  
61.05 ✓

$\frac{.839 \times .68}{1.36} = \frac{1.519}{1.36}$

	+	-
Depth Correction ...	-	<u>17.72</u> ✓
Deduction for superstructures ...	-	<u>25.12</u> ✓
Sheer correction ...	-	<u>.14</u> ✓
Round of Beam correction ...	-	-
Correction for Thickness of Deck amidships ...	-	-
Other corrections, scantlings, etc. ...	-	-
	-	<u>42.98</u> ✓

Summer Freeboard = 18.07 ✓SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:—

Tropical Fresh Water Line above Centre of Disc ...	<u>8<math>\frac{1}{2}</math></u> ✓	Tropical Fresh Water Freeboard ...	<u>0' 9<math>\frac{1}{2}</math></u> ✓
Fresh Water Line " " ...	<u>4<math>\frac{1}{4}</math></u> ✓	Fresh Water " " ...	<u>1 - 1<math>\frac{3}{4}</math></u> ✓
Tropical Line " " ...	<u>4<math>\frac{1}{4}</math></u> ✓	Tropical " " ...	<u>2 - 1<math>\frac{3}{4}</math></u> ✓
Winter Line below " " ...	<u>4<math>\frac{1}{4}</math></u> ✓	Winter " " ...	<u>1 - 10<math>\frac{1}{4}</math></u> ✓
Winter North Atlantic Line " " ...	<u>7<math>\frac{3}{4}</math></u> ✓	Winter North Atlantic " " ...	<u>2 - 1<math>\frac{3}{4}</math></u> ✓

13 APR 1937



# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	...	...	...	...	...	...	...	...	...
Dimensions of Hatchway	...	...	...	...	...	...	...	...	...
COAMINGS	Height above Deck	...	SIX OMTIGHT HATCHES ON TRUNK TOP 4'-0" x 2'-6"						
	Thickness	...	COAMINGS 2'-6" x 4" STEEL COVERS .5" FITTED WITH						
	Sides	...	TOGGLES SPACED AS APPROVED.						
	Stiffeners	...							
HATCH BEAMS	Number	...	THREE OMTIGHT HATCHES EACH SIDE ON UPPER DECK						
	Spacing	...	TO WING TANKS 24" x 18" COAMING 6" x 3/8" CAST STEEL HINGED						
	Scantling and Sketch	...	COVER FITTED WITH TOGGLES SPACED AS APPROVED.						
	Bearing Surface	...	CASTTIGHT STEEL HATCH ON FORECASTLE DECK 4'-0" x 3'-6"						
FORE AND AFTERS	Number	...	WATERTIGHT HATCH TO CARGO SPACE FORWARD						
	Spacing	...	ON TRUNK TOP 15'-10 1/2" x 8'-1/4" COAMING 2'-6" x 4"						
	Unsuported Lengths	...	STEEL COVER .5" FITTED WITH TOGGLES 2'-0" APART						
	Scantling and Sketch	...	STIFFERS 5 1/2" x 3" x 3 BA. 24" APART						
HATCH COVERS	Material	...	THREE STEEL HATCHES TO OIL FUEL BUNKERS						
	Thickness	...	2'-6" DIA. COAMING 2'-6" x 4" HINGED STEEL						
	How fitted	...	COVER .4" FITTED WITH TOGGLES SPACED AS APPROVED.						
	Bearing Surface	...							
Spacing of Cleats	...	...							
Number of Tarpaulins	...	...							

\*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 GRATINGS COVERED BY STRONG STEEL HINGED COVERS  
 FIDLEY + FUNNEL VENTILATORS IN EFFICIENT CONDITION.  
 ENGINE SKYLIGHT OF STEEL STRONGLY CONSTRUCTED.

Particulars of Flush Bunker Scuttles:—

Particulars of Companionways:—

STEEL COMPANIONWAY ON TRUNK TOP TO FORWARD PUMP ROOM  
 6'-0" x 4'-0" x 4" 6'-6" HIGH. INT. STEEL DOOR 4'-8 1/2" x 2'-0" 18 CORN.  
 DOOR OPERATED FROM BOTH SIDES.

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

1 VENT ON FGLE DK. 12" DIA. COAMING 3'-6" x 34" LED TO FORE PEAK  
 2 VENTS " " 8" " 3'-0" x 3" STORE ROOMS  
 2 " " TRUNK TOP 16" " 3'-6" x 38" FORWARD PUMP ROOM  
 2 " " " 16" " 3'-6" x 38" FORWARD CARGO HOLD  
 1 VENT " POOP DK. 8" " 3'-6" x 4" AFTER PUMP ROOM  
 2 " " " 2'-6" x 3" STEERING GEAR HOUSE  
 ALL VENTILATORS CONSTRUCTED IN ACCORDANCE WITH RULES AND COAMINGS CLOSED WITH WOOD PLUGS + CANVAS COVERS.

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

1 AIR PIPE ON FGLE DK. 18" HIGH x 5" DIA. FROM FORE PEAK TANK  
 6 AIR PIPES ON UPPER DK. 36" HIGH x 4" DIA. FROM WING TANKS FITTED WITH STAINLESS STEEL GAUZE  
 2 AIR PIPE " TRUNK TOP 18" " x 3" " OIL FUEL TANK  
 2 AIR PIPE " UPPER DK. 36" " x 4" " DEEP TANK  
 2 AIR PIPES " BOAT DK. 12" " x 3" " WASHING WATER TANK  
 2 " " " 12" " x 3" " FRESH WATER TANK  
 2 " " " 18" " x 3 1/2" " AFTER PEAK TANK  
 ALL AIR PIPES OR STEEL TUBES WITH CAST IRON TOP. AIR PIPES TO OIL TANKS FITTED WITH SCREENED PLATE COVERS. REMAINDER OF AIR PIPES FITTED WITH WOOD PLUGS + CHAINS.

Particulars of Gangway Cargo and Coaling Ports:—

Bachaguerro.

Particulars of Scuppers and Sanitary Discharge Pipes:—

SCUPPERS FITTED WITH GUNMETAL STORM VALVES AT SHIPS SIDE + BRASS GRATING AT DECK  
 SANITARY DISCHARGE PIPES FITTED WITH GUNMETAL STORM VALVES AT SHIPS SIDE AND  
 EFFICIENT TRAP AT INNER END  
 NO Sanitary discharges or overboard scuppers from poop space.

Particulars of Side Scuttles:—

SIDE SCUTTLES IN BRIDGE SPACE FITTED WITH HINGED DEADLIGHTS  
 NO SIDE SCUTTLES FITTED IN FORECASTLE + POOP SPACES AND NONE  
 BELOW FREEBOARD DECK  
 ALL SCUTTLES OF SUBSTANTIAL CONSTRUCTION.

Particulars of Guard Rails:—

GUARD RAILS ON FREEBOARD DK. 3'-6" HIGH WITH 3 RAUS STANCHIONS SPACED 4'-6" APART  
 " " " TRUNK TOP D:  
 " " " FORECASTLE DK D:  
 " " " BRIDGE DK D:  
 " " " POOP DK D:  
 STANCHIONS SPACED 4'-0" APART.

Particulars of Gangways, Lifelines, etc.:—

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	...	✓				
Forward Well	...	✓				
State position of each freeing port ... } After Well:— (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:— 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	NONE	48 x 44	8 1/2 x 3 x 4 BA.	30"	LUGGED TOP + BOTTOM	NONE		8'-0"
Raised Quarter Deck Bulkhead	✓							
Bridge, After Bulkhead	NONE	3	4 x 3 x 32 L	32"	BRACKETED AT TOP	RS. 4' x 3 1/2"	21"	8'-0"
Bridge, Forward Bulkhead	NONE	44	8 x 3 x 4 BA.	30"	LUGGED TOP + BOTTOM	RS. 5'-0" x 3'-0"	18"	8'-0"
Forecastle Bulkhead	NONE	3	4 x 3 x 4 L	33"	NONE	RS. 5'-3" x 2'-0"	18"	8'-0"
Trunk, Aft								
Trunk, Forward	✓							
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	✓							
Exposed Machinery Casings on Superstructure Decks	3'-6" x 3	3	3 1/2 x 2 1/2 x 3 L	36"	BRACKETED AT TOP	IRS. 3'-3" x 2'-0"	15"	9'-6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓							
Deckhouses on Flush Deck Ships	✓							

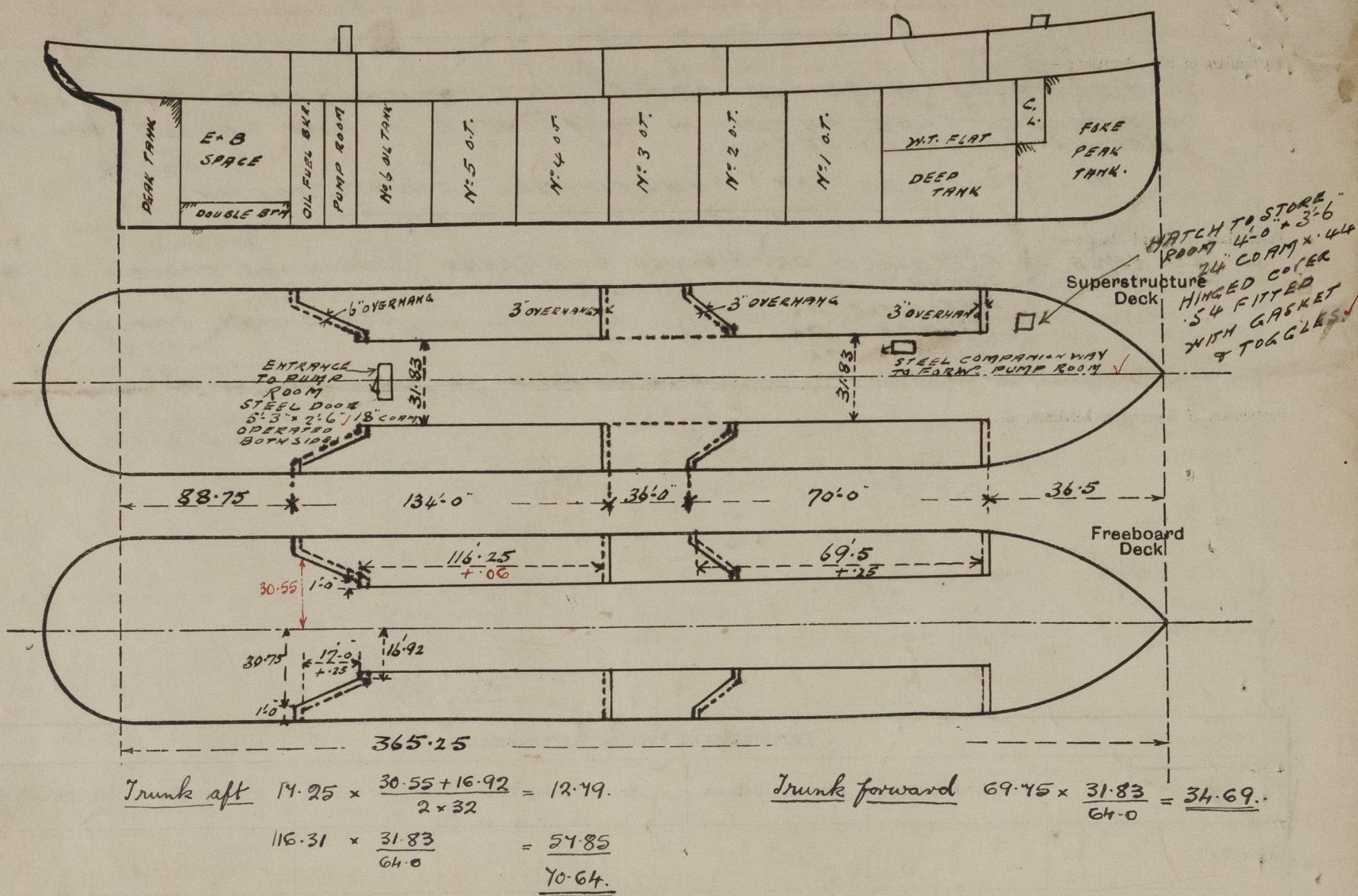
Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead	NO OPENINGS ✓
Raised Quarter Deck Bulkhead	Two hinged steel watertight doors See spec. Ch. 11
Bridge, After Bulkhead	TWO TONNAGE OPENINGS I.R.I.S. 3 PLATE WITH HOSE BOLTS 12" APART
Bridge, Forward Bulkhead	TWO WATERTIGHT STEEL DOORS OPERATED FROM BOTH SIDES
Forecastle Bulkhead	TWO WATERTIGHT STEEL DOORS D:
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	✓
Exposed Machinery Casings on Superstructure Decks	TWO STEEL DOORS S.S. ONE STEEL DOOR P.S. OPERATED FROM BOTH SIDES
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓
Deckhouses on Flush Deck Ships	✓



Bac haquero.

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 shewn on the following sketches:—



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

Builder's name and yard number FURNESS S.B. CO. No 266

Names of sister ships ✓

Owners ANGLO AMERICAN OIL CO.

Fee £ 2 to be charged

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