

No. 8102

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having

Poop Bridge and Forecastle

Port of Survey

B. 1/2 30

(Type of Superstructures.)

Date of Survey

20<sup>th</sup> April 1932

Ship's Name

S.S. "Miraflores"

Nationality and Port of

Registry  
Spanish  
B. 1/2 30

Official Number

Gross Tonnage

Date of Build

3209

1919-1

Name of Surveyor

J. de Barro

Moulded Dimensions: Length 331'-0" Breadth 46'-8 1/2" Depth 25'-6"

Moulded displacement at moulded draught = 85 per cent. of moulded depth 7247 tons

Coefficient of fineness for use with Tables 761

Particulars of Classification 100 A.1.

## Depth for Freeboard (D)

Moulded depth ... 25'-50"

Stringer plate ... 26'-6"

Sheathing on exposed deck

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

Depth for Freeboard (D) = 25'-54"

## Depth correction

$$(a) \text{ Where D is greater than Table depth} \\ (D - \text{Table depth}) R = (25'-54" - 22'-05") 2.543 \\ = 3.49 \times 2.543 = +8.88$$

$$(b) \text{ Where D is less than Table depth (if allowed)} \\ (\text{Table depth} - D) R =$$

If restricted by superstructures

## Round of Beam correction

Moulded Breadth (B) 46'-8 1/2"

$$\text{Standard Round of Beam} = \frac{B \times 12}{50} = 11.16$$

$$\text{Ship's Round of Beam} = 11.3/4$$

$$\text{Difference} = \text{excess} = .59$$

Restricted to

$$\text{Correction} = \frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.59}{4} \left( 1 - \frac{.5146}{48.54} \right) = -.08$$

## DEDUCTION FOR SUPERSTRUCTURES.

|                         | Mean Covered Length (S) | Equivalent Enclosed Length (S <sub>1</sub> ) | Height | Height Correction | Effective Length (E) |
|-------------------------|-------------------------|--|--------|-------------------|----------------------|
| Poop enclosed ...       | 33.0                    | 33.00  | 7.6"   |                   | 33.00                |
| " overhang ...          |                         |  |        |                   |                      |
| R.Q.D. enclosed ...     |                         |  |        |                   |                      |
| " overhang ...          |                         |  |        |                   |                      |
| Bridge enclosed ...     | 98.0                    | 98.00  | 7.6"   |                   | 98.00                |
| " overhang aft ...      | 2.0                     | 1.50   |        |                   | 1.50                 |
| " overhang forward ...  |                         |  |        |                   |                      |
| Fore enclosed ...       | 28.0                    | 28.00  | 7.6"   |                   | 28.00                |
| " overhang ...          |                         |  |        |                   |                      |
| Trunk aft ...           |                         |  |        |                   |                      |
| " forward ...           |                         |  |        |                   |                      |
| Tonnage opening aft ... |                         |  |        |                   |                      |
| " " forward ...         |                         |  |        |                   |                      |
| Total ...               | 161.0                   | 160.50                                       |        |                   | 160.50               |

Standard Height of Superstructure 6.807

R.Q.D.

Deduction for complete superstructure 37.38

$$\text{Percentage covered } \frac{S}{L} = 48.69\%$$

$$\frac{S_1}{L} = 48.54\%$$

$$\frac{E}{L} = 48.54\%$$

Percentage from Table, Line A.  
(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)

$$\text{Deduction} = 37.38 \times .3476 = -12.99$$

## SHEER CORRECTION.

| Station             | Standard Ordinate | S | M | Product | Actual Ordinate | Effective Ordinate | S | M | Product |
|---------------------|-------------------|---|---|---------|-----------------|--------------------|---|---|---------|
| A.P. ...            | 43.07             | 1 |   | 43.07   | 51.00           | 51.00              | 1 |   | 51.00   |
| 1/4 L from A.P. ... | 19.16             | 4 |   | 76.64   | 22.5            | 22.5               | 4 |   | 90.04   |
| 2/4 L " ...         | 4.74              | 2 |   | 9.48    | 5.6             | 5.63               | 2 |   | 11.26   |
| Amidships ...       |                   | 4 |   |         | 0.00            |                    | 4 |   |         |
| 3/4 L from F.P. ... | 9.47              | 2 |   | 18.94   | 11.50           | 11.45              | 2 |   | 22.90   |
| 1/4 L " ...         | 38.33             | 4 |   | 153.32  | 46.7            | 45.82              | 4 |   | 183.28  |
| F.P. ...            | 86.13             | 1 |   | 86.13   | 102.00          | 102.00             | 1 |   | 102.00  |
| Total ...           |                   |   |   | 387.58  |                 |                    |   |   | 460.48  |

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left( \frac{.75 - S}{2L} \right) = \frac{72.9}{18} \left( \frac{.5066}{15.2434} \right) = -2.05$$

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 = 25'-54"

Summer freeboard = 4'-00"

Moulded draught (d) = 21'-54"

Deduction for Tropical freeboard and addition for

Winter freeboard = 5'-39"

Addition for Winter North Atlantic Freeboard (if required =

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

$$\Delta = 7233$$

Tons per inch immersion at summer load water line

$$T = 30 \text{ tons}$$

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

$$= 5.9 \times 3 = 17.7$$

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

Correction for coefficient 761 + .68

$$\frac{761 + .68}{136}$$

Depth Correction ... 8.88

Deduction for superstructures ... 12.99

Sheer correction ... 2.05

Round of Beam correction ... .08

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

+ -

8.88 12.99

2.05 .08

8.88 15.12

- 6.24

Summer Freeboard = 47.99

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

|  |       |
|--|-------|
| Tropical Fresh Water Line above Centre of Disc ... | 11.30 |
| Fresh Water Line " " ...                           | 5.93  |
| Tropical Line " " ...                              | 5.39  |
| Winter Line below " " ...                          | 5.39  |
| Winter North Atlantic Line " " ...                 |       |

|                                    |       |
|------------------------------------|-------|
| Tropical Fresh Water Freeboard ... | 36.69 |
| Fresh Water " " ...                | 42.08 |
| Tropical " " ...                   | 42.60 |
| Winter " " ...                     | 53.38 |
| Winter North Atlantic " " ...      |       |



## HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

Particulars of siddle, funnel and ventilator coamings: *Fiddle openings are filled with strong steel covers permanently attached in their proper positions. Engine Room skylight is of steel and is fitted with strong steel covers with substantial lights permanently attached in their proper positions.*

Particulars of Flush Bunker Scuttles:—  
Two ventilators to Boiler Room 24" diam x 25" thick and 9' 1" above fiddley top.  
" " " Engine Room 15" " x 25" " " 25" " Engine casing top.  
one " " Toile 16" " x 25" " " One 12" diam and 21" coaming  
Height of funnel coaming = 22" .

Particulars of Companionways :-

0.90 = 100 to 1000 - None -

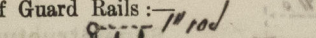
To crews accommodation in poop: Two deck 8-6" Mushroom Vents and 3 Gossweck Vents 4 1/2" diam x 17" high. -  
To Bridge Two Deck One vent 16 x 3 1/2" 38" high and 3 Gossweck Vents 6" diam and 6" high. Also two carriage post vents 18" diam 140" high.  
All ventilator openings are provided with wood patches and canvas covers. All mushroom vents have screw covers. -

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks :-  
All air pipes in exposed positions on the freeboard and superstructure decks are fitted with brass deck sockets and brass plugs and do not extend above the top of the deck.

Particulars of Gangway Cargo and Coaling Ports:—

Particulars of Side Scuttles: No side scuttles are situated below the main deck. Side scuttles are situated 18" below the fore-castle and poop decks and are fitted with efficient inside deadlights permanently attached in their proper positions.

Particulars of Guard Rails :-



Different guard rails are fitted in all exposed portions of all Superstructure Decks as detailed on sketch.

Particulars of Gangways, Lifelines, etc. :- ~~None fitted~~  
Both forward and after wells are fitted with strong bedw

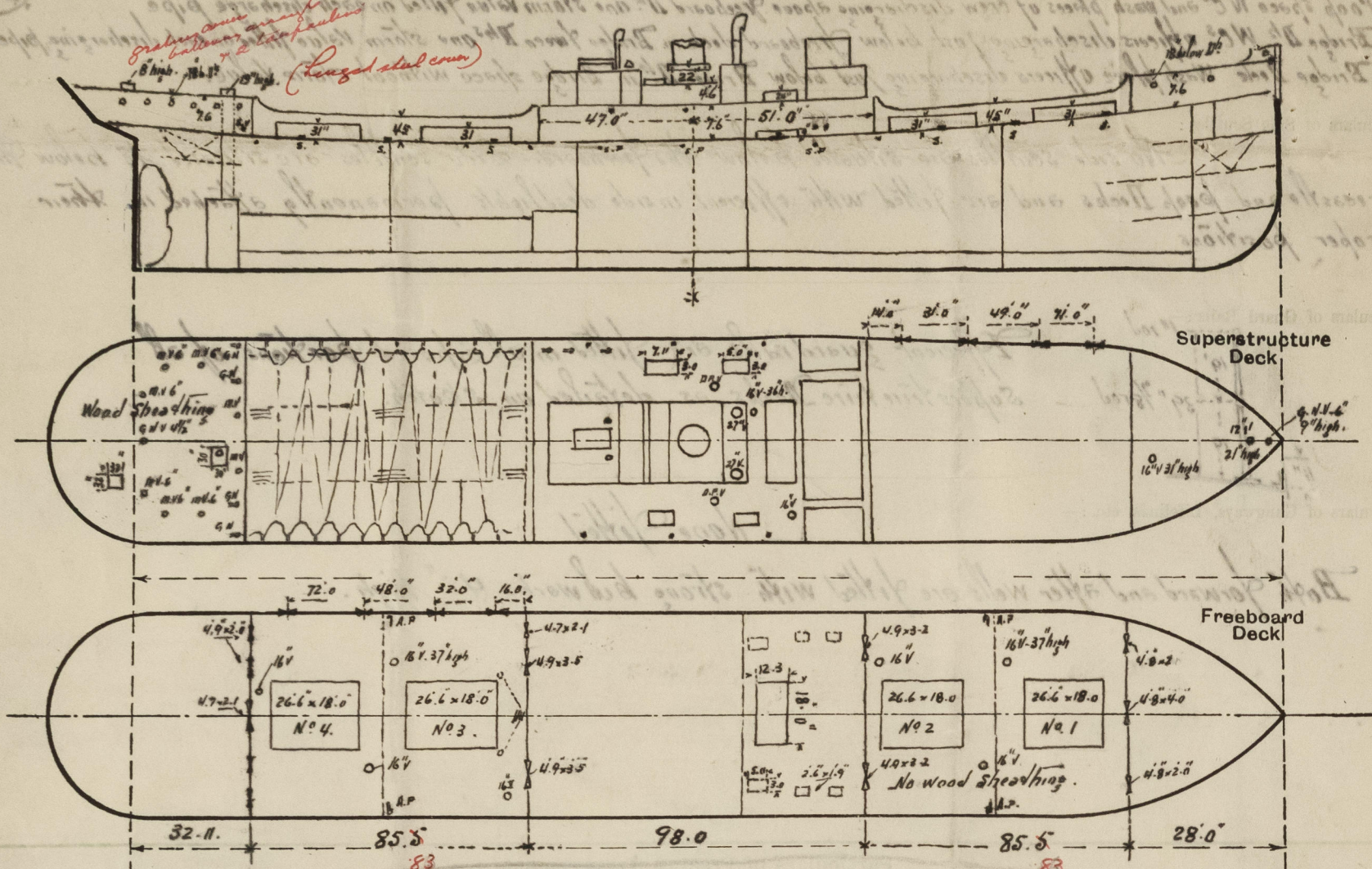
Suitable provision made for rigging lifelines available for use in any part of the ship which ought have to be used by the crew in the regular working of the ship

| Particulars of Superstructures, Trucks, Casings, Deckhouses.                               |         |         |                     |         |                               |                  |                 |                   |
|--|---------|---------|---------------------|---------|-------------------------------|------------------|-----------------|-------------------|
|  | Coaming | Plating | Stiffeners          | Spacing | End Attachments of Stiffeners | Size of Openings | Height of Sills | Height of Casings |
| Poop Bulkhead ... ..   | 40      | 36      | 6 x 3 1/2 x 48 S.A. | 22 1/2  | Braibels's Patent             | 4.9 x 2.0        | 18"             |                   |
| Raised Quarter Deck Bulkhead ...   | r       | r       | r                   | r       | r                             | r                | r               | r                 |
| Bridge, After Bulkhead ... ..  | 40      | 36      | 3 x 3 x 3/8 S.A.    | 36"     | Free ends                     | 4.9 x 3.5        | 19"             |                   |
| Bridge, Forward Bulkhead ... ..  | 40      | 36      | 8 x 3 1/2 B.H.      | 25 1/2  | Braibels's Patent Bottom      | 4.9 x 3.5        | 18"             |                   |
| Forecastle Bulkhead ... ..   | 40      | 36      | 3 x 2 3/8 S.A.      | 32      | Free ends                     | 4.9 x 3.5        | 18"             |                   |
| Trunk, Aft ... ..  | r       | r       | r                   | r       | r                             | r                | r               |                   |
| Trunk, Forward ... ..  | r       | r       | r                   | r       | r                             | r                | r               |                   |
| Exposed Machinery Casings on Free-board or Raised Quarter Decks ...                        | r       | r       | r                   | r       | r                             | r                | r               |                   |
| Exposed Machinery Casings on Super-structure Decks ... ..                                  | 32      | 25      | 3 1/2 x 3 1/2 x 36  | 40      | Free ends                     | 4.6 x 2.0        | 18"             | 70 & 4.6          |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... .. | 32      | 25      | 3 1/2 x 3 1/2 x 36  | 40      | —                             |                  | r               | 7.6               |
| Deckhouses on Flush Deck Ships ...   | r       | r       | r                   | r       | r                             | r                | r               | r                 |

| Particulars of Closing Appliances (continued)                                       |     | Remarks  |
|---|-----|--|
| Poop Bulkhead   | ... | 5 openings. 4 iron hinged doors and One Hinged Wood door capable of being manipulated from both sides. |
| Raised Quarter Deck Bulkhead  | ... | 1 opening.   |
| Bridge, After Bulkhead  | ... | 3 openings. 2 filled with storm boards in riveted channels full height and One iron hinged door.       |
| Bridge, Forward Bulkhead  | ... | 2 openings. Filled with iron hinged doors and bolted doors spaced 19" horizontally & 2" vertically.    |
| Forecastle Bulkhead   | ... | 3 openings. One filled with storm boards in riveted channels full height and two iron hinged doors.    |
| Exposed Machinery Casings on Free-board or Raised Quarter Decks                     | ... | 1 opening. Steel weather tight doors capable of being manipulated from both sides.                     |
| Exposed Machinery Casings on Super-structure Decks                                  | ... | 1 opening. Steel weather tight doors capable of being manipulated from both sides.                     |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances | ... | No openings.   |
| Deckhouses on Flush Deck Ships  | ... | 1 opening.   |



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:—



Note - Survey held whilst vessel afloat and confined to an examination of means for closing the openings in the decks and sides of the ship. Not for Govt copy

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

### Particulars for the Carriage of Timber Deck Cargoes.

- (1) Double bottom tanks have no longitudinal subdivision.
- (2) Bulwarks fitted to forward and after wells plating  $\frac{3}{8}$  thick  $\times 45$ " high.  
Stays Bulb plate  $7\frac{1}{2} \times 104$  spaced 5.8 & 5.0 from ends.  
Bulwark Main Rail  $8 \times 3 \times \frac{1}{2}$  B.A.
- (3) Protection to hold vents - Cargo stowed well clear of all vents forming ample space round same.
- (4) Access to Crews Quarters and Machinery Space - Deck cargo stowed well clear of forecassle and Poop fronts and stowed so as to form a ladderway from deck to top of deck cargo over which the crew pass to the Bridge - Access to Machinery space through casings on Bridge Deck. No deck cargo in superstructure.
- (5) Protection to Main Steering gear - Deck cargo stowed well clear of all gearing blocks and steering drum and chains. Hand steering in Poop Deck clear of cargo.
- (6) No sockets for uprights fitted - No eye plates fitted on sheerstroke
- (7) Method for lashing cargo (as shown above).

Builder's name and yard number

Irvine's Ship Building and Dry Docks Co Ltd

Names of sister ships

Owners

Compañia Naviera Vascongada - Bilbao

Fee £

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