

22 MAY 1934

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(For London Office only.)

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

8469

 Computation of Freeboard for ~~Steamship~~ Tanker  
 having  *tanker Newcastle, Trunk & Raised Quarter Deck*
Port of Survey *Bilbao*

(Type of Superstructures.)

Date of Survey *whilst building*

Ship's Name

Nationality and Port of Registry

Official Number

Gross Tonnage

Date of Build

Name of Surveyor *R. Crawford**'CAMPALANS' (BARRERAS)*  
*HULL N°520.**SPANISH*  
*Barcelona**1080*  
*R.B.**1934*
 Moulded Dimensions: Length *54.864* Breadth *10.668* Depth *4.115*  
 Moulded displacement at moulded draught = 85 per cent. of moulded depth *1653 M³ @ 3.498 M*  
 Coefficient of fineness for use with Tables *.808*

 Particulars of Classification *+100 A.1*  
*"Carrying Oil Fuel in Bulk"*  
*Longitudinal Framing "Bracketless System"*

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... .. <i>4.115</i>	(a) Where D is greater than Table depth (D - Table depth) R = <i>8.33(4.124 - 3.658) × 1.385 = +54 1/2</i>	Moulded Breadth (B) <i>10.668</i>
Stringer plate ... .. <i>.009</i>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <i>✓</i>	Standard Round of Beam = $\frac{B \times 12}{50} =$ <i>0.213</i>
Sheathing on exposed deck T $\left(\frac{L-S}{L}\right) =$ <i>✓</i>	If restricted by superstructures <i>✓</i>	Ship's Round of Beam = <i>0.225</i>
Depth for Freeboard (D) = <i>4.124</i>		Difference <i>0.012</i>
		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{12}{4} \times .2083 = -1$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ... ..					
„ overhang ... ..					
R.Q.D. enclosed ... ..	<i>16.990</i>	<i>16.990</i>	<i>1.220</i>	<i>✓</i>	<i>16.990</i>
„ overhang ... ..					
Bridge enclosed ... ..					
„ overhang aft ... ..					
„ overhang forward ... ..					
Fore enclosed ... ..	<i>10.414</i>	<i>10.414</i>	<i>1.220</i>	$\times \frac{1.220}{1.830} =$	<i>6.942</i>
„ overhang ... ..					
Trunk <i>24.460</i> ... ..		<i>16.032</i>	<i>1.220</i>	$\times \frac{1.220}{1.830} =$	<i>10.688</i>
„ forward ... ..					
Tonnage opening aft ... ..					
„ forward ... ..					
Total ... ..	<i>27.404</i>	<i>43.436</i>			<i>34.620</i>

Standard Height of Superstructure *1.830*„ „ R.Q.D. *1.075*Deduction for complete superstructure *610*Percentage covered  $\frac{S}{L} =$  *49.94*„ „  $\frac{S_1}{L} =$  *79.17*„ „  $\frac{E}{L} =$  *63.10*Percentage from Table, Line A. *Tanker 55.41*  
(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 = *610 × .5541 = - 338*

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ... ..	<i>711</i>	<i>1</i>		<i>711</i>	<i>.838</i>	<i>838</i>	<i>1</i>		<i>838</i>
$\frac{1}{6}$ L from A.P. ... ..	<i>316</i>	<i>4</i>		<i>1264</i>	<i>.362</i>	<i>362</i>	<i>4</i>		<i>1448</i>
$\frac{2}{6}$ L „ ... ..	<i>79</i>	<i>2</i>		<i>158</i>	<i>.081</i>	<i>81</i>	<i>2</i>		<i>162</i>
Amidships ... ..	<i>-</i>	<i>4</i>		<i>-</i>	<i>✓</i>	<i>-</i>	<i>4</i>		<i>-</i>
$\frac{2}{6}$ L from F.P. ... ..	<i>158</i>	<i>2</i>		<i>316</i>	<i>.159</i>	<i>159</i>	<i>2</i>		<i>318</i>
$\frac{1}{6}$ L „ ... ..	<i>632</i>	<i>4</i>		<i>2528</i>	<i>.664</i>	<i>664</i>	<i>4</i>		<i>2656</i>
F.P. ... ..	<i>1422</i>	<i>1</i>		<i>1422</i>	<i>1.664</i>	<i>1664</i>	<i>1</i>		<i>1664</i>
Total ... ..				<i>6399</i>					<i>7086</i>

Mean actual sheer aft = *Excess*  
Mean standard sheer aftMean actual sheer forward = *Excess*  
Mean standard sheer forwardLength of enclosed superstructure forward of amidships = *✓*„ „ aft of „ = *✓*Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{687(.75 - .2497)}{18} = -19$ 

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.

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$  *1878*

Tons per inch immersion at summer load water line

T = *13.41*Deduction =  $\frac{\Delta}{40 T}$  inches= *3.50*= *89 1/2*

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

 $\frac{.808 + .68}{1.36} = \frac{1.488}{1.36}$ 

503

550

Depth Correction ... ..

Deduction for superstructures ... ..

Sheer correction ... ..

Round of Beam correction ... ..

Correction for Thickness of Deck amidships ... ..

Other corrections, scantlings, etc. ... ..

+ -

54 -

- 338

- 19

- 1

- -

- -

54 358 - 304

Summer Freeboard = *246*SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, *Steel*, Deck: - *246 1/2 = 9.68*

Tropical Fresh Water Line above Centre of Disc ... ..

Fresh Water Line „ „ ... ..

Tropical Line „ „ ... ..

Winter Line below „ „ ... ..

Winter North Atlantic Line „ „ ... ..

*.170 1/2 = 6.69**.89 1/2 = 3.50**.81 1/2 = 3.19**.81 1/2 = 3.19**.132 1/2 = 5.19*

Tropical Fresh Water Freeboard ... ..

Fresh Water „ „ ... ..

Tropical „ „ ... ..

Winter „ „ ... ..

Winter North Atlantic „ „ ... ..

*.76 1/2 = 2.99**.157 1/2 = 6.18**.165 1/2 = 6.49**.327 1/2 = 12.87**.378 1/2 = 14.87*
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# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

Description of Hatchway	HATCHWAYS ON FREEBOARD		AND SUPERSTRUCTURE DECKS		ON RAISED Q. DECK	
	ON FORE DECK	W.T. HATCH TO STORE ROOM FORWARD	ON TRUNK DECK	ON UPPER DECK	ON HATCH TO FUEL TANKS	W.T. HATCH TO STORE ROOM AFT
Dimensions of Hatchway	1680x1330	455 1/2 dia	1220x760	600x455	600x455	770x770
COAMINGS	Height above Deck	760	380 above bulkhead	230x90x11 B.A.	600	600
	Thickness	10	10	10	10	10
	Sides	10	10	10	10	10
	Ends	10	10	10	10	10
HATCH BEAMS	Number	none	none	none	none	none
	Spacing	none	none	none	none	none
	Scantling and Sketch	none	none	none	none	none
	Bearing Surface	none	none	none	none	none
FORE AND AFTERS	Number	none	none	none	none	none
	Spacing	none	none	none	none	none
	Unsupported Lengths	none	none	none	none	none
	Scantling and Sketch	none	none	none	none	none
HATCH COVERS	Material	Steel	Steel	Steel	Steel	Steel
	Thickness	11 1/2	11 1/2	12 1/2	10 1/2	11 1/2
	How fitted	Hinged	Hinged	Hinged	Hinged	Hinged
	Bearing Surface	W.T. Cover	W.T. Cover	O.T. Cover	O.T. Cover	W.T. Cover
Spacing of Cleats	none	none	none	none	none	none
Number of Tarpaulins	none	none	none	none	none	none

Particulars of fiddle, funnel and ventilator coamings:—  
 Fiddle latches on casing top 100x1450% P.S. with B.A. Coaming with steel gratings and Hinged steel covers permanently attached. All ventilators in efficient condition. Pump Room and Engine Room skylights of substantial steel construction closed by hinged steel covers with built-in clips & lock fitted, capable of being manipulated from funnel casing entirely enclosed pivoted to casing top.

Particulars of Flush Bunker Scuttles:—

none.

Particulars of Companionways:—

On Forecastle &c.  
 To cross accommodation in side space. One on portside opening in deck 650% x 1350% enclosed by substantial steel bulkhead with hinged steel door 1540x610% (no jointing material fitted) Ht of sill = 380% clips & lock fitted, capable of being manipulated from both sides.

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

All ventilator coamings in accordance with Rule Requirements. They are of substantial construction, screw-down steel covers provided as means of closing.

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

Air pipes on Forecastle, Upper and Raised Quarter Decks, all of h.c. iron strongly constructed. Hinged h.c. iron W.T. covers provided as means of closing openings of pipes. Ht of openings = 18" above Forecastle &c. D. &c. = 36" " Upper Deck = 20" " Cargo & Hatch covers on Trunk &c.

Particulars of Gangway Cargo and Coaling Ports:—

none.

Particulars of Scuppers and Sanitary Discharge Pipes:—

No scuppers, no sanitary discharge pipes drain overboard from spaces below Forecastle Deck, close draining from enclosed Forecastle, Bridge Deckhouse and Raised 2. &c. have brass storm valves on ship's side fitted in positions always accessible. The discharge pipes from the Forecastle Bulkhead & Engine Room & Pump Room in the R.P. are under the same Deck Deckhouse into the Engine Room hold.

Particulars of Side Scuttles:—

No side scuttles below Foreboard Deck. Side scuttles to Raised Quarter Deck and Forecastle Ld. dks situated 600x800% below R. 2. &c. and Forecastle &c. respectively, provided with efficient inside headlight permanently attached in their proper position. All side scuttles are of substantial construction.

Particulars of Guard Rails:—

Efficient guard rails are fitted on all exposed positions of freeboard and superstructure decks and trunk top. 2 guard rails of 14 1/2 x 1/4" dia. respectively.

Particulars of Gangways, Lifelines, etc.:—

Trunk top used as gangway from Raised Quarter Deck to Bridge House, substantial rod gratings efficiently fitted to P.S. of Bridge House with efficient guard rails as for trunk top, with small steel ladders as means of access from trunk top, and trunk top used as gangway from Bridge House to Forecastle Deck.

Particulars of Freeing Arrangements.						
	Length of Bulkhead	Height of Bulkhead	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	16.99 m.	Open	2-3 x 1-4	1	2.99 sq. ft.	—
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.

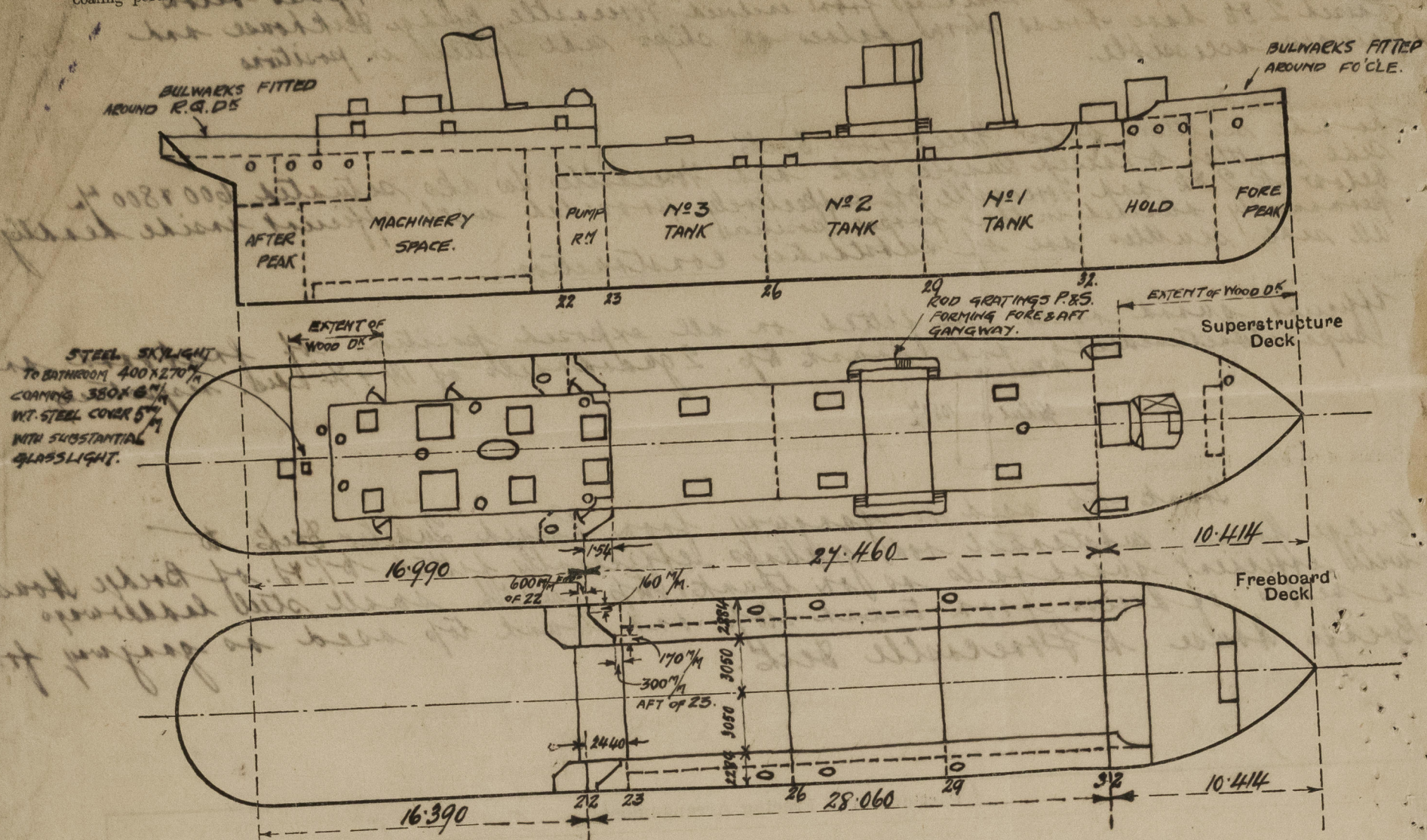
Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
PUMP ROOM HOUSE ON RAISED Q. DECK	4 1/2"	4 1/2"	5 1/2" x 3" 30BA	570"	Lugged top & bottom	1470 x 670%	490%	2.280 M.
Raised Quarter Deck Bulkhead	8"	8"	5 1/2" x 3" 32BA	610"	" " "	none	✓	1.220 M.
Bridge, After Bulkhead	✓	✓	✓	✓	✓	✓	✓	✓
Bridge, Forward Bulkhead	✓	✓	✓	✓	✓	✓	✓	✓
Forecastle Bulkhead	6 1/2"	6 1/2"	5 1/2" x 3" 30BA	850"	✓	1540 x 610%	450%	1.220 M.
Trunk, Aft	In accordance with approval plans							
Trunk, Forward								
Exposed Machinery Casings on Deck	4 1/2" x 7 1/2"	6 1/2"	4 1/2" x 6 1/2" 7.5A	620-1000"	Brackets to bulkhead	1520 x 610%	490%	2.280 M.
Exposed Machinery Casings on Superstructure Decks	✓	✓	✓	✓	✓	✓	✓	✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓	✓	✓	✓	✓	✓	✓	✓
Deckhouses on Forecastle	✓	6 1/2"	4 1/2" x 6 1/2" 7.5A	900"	Brackets to bulkhead	1540 x 610%	380%	2.280 M.

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

PUMP ROOM HOUSE ON RAISED Q. DECK	Hinged steel W.T. doors
Raised Quarter Deck Bulkhead	No openings
Bridge, After Bulkhead	✓
Bridge, Forward Bulkhead	✓
Forecastle Bulkhead	Hinged steel doors (no jointing material fitted)
Exposed Machinery Casings on Deck	Hinged steel W.T. doors
Exposed Machinery Casings on Superstructure Decks	✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓
Deckhouses on Forecastle	Hinged steel doors (no jointing material fitted)



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:—



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

*This vessel is an oil tanker on the longitudinal framing "Bracketless system" and is built in accordance with the approved plans.*

Builder's name and yard number *Messrs Hijos de J. Barrios S.A. Vigo Hall n° 520.*  
 Names of sister ships *"CAMPRODON" Messrs Corchos Hijos, Santander. Hall n° 34.*  
 Owners *Messrs Cia. Arrendataria del Monopolio de Petroleos S.A. Madrid.*  
 Included in *Fee £ Inclusive Special Survey* Received by me *Lee.*



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