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(For London Office only.)

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Computation of Freeboard for *Steamer, Sailing Ship, Tanker*

having *Prop. Bridge & Forecastle* Port of Survey *Bilbao*

(Type of Superstructures)

Ship's Name *"CAMPEADOR."* Nationality and Port of Official Number *Spanish 1832* Date of Build *1932-7*

Moulded Dimensions: Length *138.68* Breadth *17.985* Depth *10.363*

Moulded displacement at moulded draught = 85 per cent. of moulded depth *16990 tons*

Coefficient of fineness for use with Table *467*

Name of Surveyor *R. Crawford*

Particulars of Classification *+100 A-1*  
*Carrying Petroleum in bulk*  
*Longitudinal framing, Breachless system.*

Depth for Freeboard (D) *10.363* Depth correction *(a) Where D is greater than Table depth (D - Table depth) R = 5.33 (10.363 - 9.248) 50 = + 2.56 L*

Moulded depth *10.363* (b) Where D is less than Table depth (if allowed) (Table depth - D) R = *16990*

Stringer plate *49* If restricted by superstructures *✓*

Sheathing on exposed deck *T (L-S) =*

Depth for Freeboard (D) = *10.382* Round of Beam correction

Moulded Breadth (B) *17.98*

Standard Round of Beam =  $\frac{B \times 12}{50} = \frac{17.98 \times 12}{50} = 4.3152$

Ship's Round of Beam = *3.68*

Difference *8 L*

Restricted to *8 L*

Correction =  $\text{Diff} \times \left( \frac{1-S}{L} \right) = \frac{8}{4} \times \frac{1-8}{10} = -1.7$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mach. Covered Length (S)	Equivalent Length (S)	Height	Height Correction	Effective Length (E)	Standard Height of Superstructure
Peep enclosed ...	33.223	33.223	7.50		33.223	2.290
overhang ...	1.219	.610			.610	B.Q.D.
R.Q.D. enclosed ...						Deduction for complete superstructure <i>1067</i>
overhang ...						Percentage covered $S = \frac{40.744}{33.223} = 122.6\%$
Bridge enclosed ...	7.772	7.772	7.50		7.772	" $S_1 = 36.07\%$
overhang aft ...	1.680	1.260			1.260	" $E = 36.07\%$
overhang forward ...	800	1.400			1.400	Percentage from Table, Line A. Tanker <i>27.07%</i>
Field enclosed ...	18.465	6.750	7.50		6.750	(corrected for absence of forecastle (if required))
overhang ...	11.80					Percentage from Table, Line B. (corrected for absence of forecastle (if required))
Trunk aft ...						Interpolation for bridge less than 2L (if required)
forward ...						Deduction = $1067 \times 27.07 = -289$
Tonnage opening aft ...						
forward ...						
Total ...	36.444	50.015			50.015	

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	Mean actual sheer aft =	Mean standard sheer aft =
A.P. ...	1409	1		1409	954	954	1		954		Deficient
1/2 L from A.P. ...	626	4		2504	165	165	4		660		Deficient
L ...	157	2		314	0	0	2		0		
Amidships ...	✓	1		✓	✓	✓	1		✓		
1/2 L from F.P. ...	313	2		626	0	0	2		0		
F.P. ...	1252	4		5008	629	629	4		2516		
F.P. ...	2819	1		2819	2410	2410	1		2410		
Total ...				12,680					6,543		

Correction =  $\frac{\text{Difference between sums of products}}{18} = \frac{(75 - \frac{S}{91})}{18} = \frac{61237}{18} \cdot (.75 - \frac{2037}{6463}) = + 186$

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 = <i>10.382</i>	Pl.
Summer freeboard = <i>2.244</i>	
Moulded draught (d) = <i>3.138</i>	
Deduction for Tropical freeboard and addition for Winter freeboard = <i>4</i> inches = <i>1.70</i>	
Addition for Winter North Atlantic Freeboard (if required) = <i>11.4</i>	

## Deduction for Fresh Water.

Displacement in salt water at summer load water line	$\Delta = 156.86$
Tons per inch immersion at summer load water line	$T = 54.02$
Deduction = $\frac{\Delta}{40 T}$ inches	$= \frac{156.86}{40 \times 54.02} = 7.26$
	$= 1.84$ inches

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

Correction for coefficient	+	-
Depth Correction ...	284	
Deduction for superstructures ...		289
Sheer correction ...	186	
Round of Beam correction ...		1
Correction for Thickness of Deck amidships ...		1
Other corrections, scantlings, etc. ...		
Summer Freeboard = <i>22.44</i>		

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, *Wass. Steel, Peak:*

Tropical Fresh Water Line above Centre of Disc ...	354	2.75	2.75	159.0	74.41
Fresh Water Line ...	184	2.75	2.75	204.0	81.68
Tropical Line ...	170	2.66	2.66	207.4	81.66
Winter Line below ...	170	2.66	2.66	241.4	95.04
Winter North Atlantic Line ...	284	2.11	2.11	252.8	94.53

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MARKING FORM

RECEIVED 15 MAY 1935



## PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
UPPER DECK.										
		10	10	2	1	POOP				
Description of Hatchway		WT. HATCHES TO CARDS 25.	WT. HATCHES TO FLOOR TIMING	WT. HATCHES TO FLOOR 25.	WT. HATCHES TO STOWES' PLANKS	WT. INFLUENCE ON POOP OF				
Dimensions of Hatchway		2060x2200	1990x1220	1220x1220	600x840	1200x1200	1050x1050			
COAMINGS	Height above Deck	760%	760%	760%	600%	550%	760%	760%		
	Thickness Sides	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2		
	Stiffeners	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2		
	Brackets, Stays	✓	✓	✓	✓	✓	✓	✓		
HATCH BEAMS	Number	✓	✓	✓	✓	✓	✓	✓		
	Spacing	✓	✓	✓	✓	✓	✓	✓		
	Scantling and Sketeh	✓	✓	✓	✓	✓	✓	✓		
	Bearing Surface	✓	✓	✓	✓	✓	✓	✓		
FORE AND AFTERS	Number	✓	✓	✓	✓	✓	✓	✓		
	Spacing	✓	✓	✓	✓	✓	✓	✓		
	Unspported Lengths Scantling* and Sketeh	✓	✓	✓	✓	✓	✓	✓		
	Bearing Surface	✓	✓	✓	✓	✓	✓	✓		
HATCH COVERS	Material	Steel Plate	Steel Plate	Steel Plate	Steel Plate	Steel Plate	Steel Plate	Steel Plate		
	Thickness	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%		
	How fitted	Keel	Keel	Keel	Keel	Keel	Keel	Keel		
	Bearing Surface	✓	✓	✓	✓	✓	✓	✓		
Spacing of Cleats		All hatch covers efficiently stiffened as approved.								
Number of Tarpaulins		✓								

\*Are wood fore and after steel shoed 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 siddle, funnel and ventilator coverings:—

Stockhold guttings covered by strong steel lined covers.  
Siddle and funnel ventilators in efficient condition.  
Engine sky light of steel strongly constructed.

Particulars of Flush Bunker Scuttles:—

None.

Particulars of Companionways: — One companion on Upper Deck forward 11'0" x 9'2" x 14'0" high leading to fore pump room.  
Steel W.T. 8000 with 450% sill. 8000 operated from both sides.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks

ROOF		UPPER DECK		
23-240 sq. dia. Vents & Decking 9 ft.		2-365 sq. dia. Vents & after Cofferdam Coaming		910 x 87 1/2"
1-365 sq. dia. Vent. & Access Hatch, Galvanizing 21 1/2% 8 ft.		2-365 sq. dia. Vents to Aft		910 x 8"
Effectively cleared head of deckhouse 1		2-365 " " " 6 foot Pump Room		910 x 8"
		2-610 " " " 6 foot Hold 2 to 2 1/2'		910 x 10
23-200 sq. dia. Sprinkler Vents & Access Hatch 33 1/4" high.		1-365 " " " 6 foot Access below		910 x 9
with hinged W.T. covers & openings.				
All ventilators constructed in accordance with the Rules enclosed with wood plating & canvas covers.				

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

POOP DECK	2-4" dia. Airpipes to After Peak Tank. Angle of opening above dk = 12°. All airpipes to trouble Bottom Tank under keel which extend 12" above Bottom Deck. Efficient closing appliance provided	FORECASTLE DECK	1-4 1/2" Airpipe to Fore Peak Tank. Angle of opening above dk = 12°.

Particulars of Gangway Cargo and Coaling Ports :—

Kore.

Camplador

Particulars of Scuppers and Sanitary Discharge Pipes

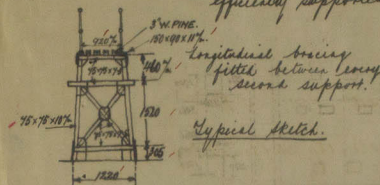
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Particulars of Side Scuttles:-

Particulars of "Silo Scuttles":  
No. 1 scuttles below 4. increased Deck.  
Scuttles for prop. Bridge & Newcastle St. are provided with efficient inside deadlights  
permanently attached in their proper positions.  
All deadlights are of satisfactory construction.

Particulars of Guard Rails :-  
 Special guardrails are fitted on all exposed positions of the footboard and all superstructures  
 as detailed below:-  
 1. At the end of the footboard.  
 2. At the end of the footboard.  
 3. At the end of the footboard.  
 4. At the end of the footboard.  
 5. At the end of the footboard.  
 6. At the end of the footboard.  
 7. At the end of the footboard.  
 8. At the end of the footboard.  
 9. At the end of the footboard.  
 10. At the end of the footboard.

Particulars of Gangways, Lifelines, etc.:—Gangway fitted from Port to Bridge, and from Bridge to Forecastle efficiently supported. Looking platforms with two rails 3' 3" in height.



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 ... ..		<i>Open rails in hatch</i>				
Forward Well ... ..		<i>free left rails.</i>				
<p>State position of each freeing port ... .. After Well :—          (L 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.</p>						

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 ... ..	610x12 1/2 ✓	11	10 3/8 x 3 1/2 x 46 A.A.	68 1/2" ✓	Butt at bottom	none	✓	✓
Raised Quarter Deck Bulkhead ... ..	✓							
Bridge, After Bulkhead ... ..	610x10 ✓	9	100 x 7 1/2 x 9 1/2 A.	96 1/2" ✓	Butt at top Lap at bottom	1450 x 950" ✓	450" ✓	✓
Bridge, Forward Bulkhead ... ..	610x12 1/2 ✓	11 1/2	10 x 3 1/2 x 46 A.A.	96 1/2" ✓	Butt at top Lap at bottom	1526 x 960" ✓	450" ✓	✓
Forecastle Bulkhead ... ..	then Forecastle ✓							
Trunk, Aft ... ..	✓							
Trunk, Forward ... ..	✓							
Exposed Machinery Casings on Free-board or Raised Quarter Decks ... ..								
Exposed Machinery Casings on Super-structure Decks ... ..	610x8 1/2 ✓	7 1/2	10 1/2 x 3 1/2 x 46 A.A. 4 x 30 x 3 1/2 x 4 1/2" alt.	68 1/2" ✓	Butt at top Butt or Lap at bottom	4460 x 540" ✓	450" ✓	2,285" ✓
Machinery Casings within Super-structures not fitted with Class I Closing Appliances ... ..	✓							
Deckhouses on Flush Deck Ships ... ..	✓							

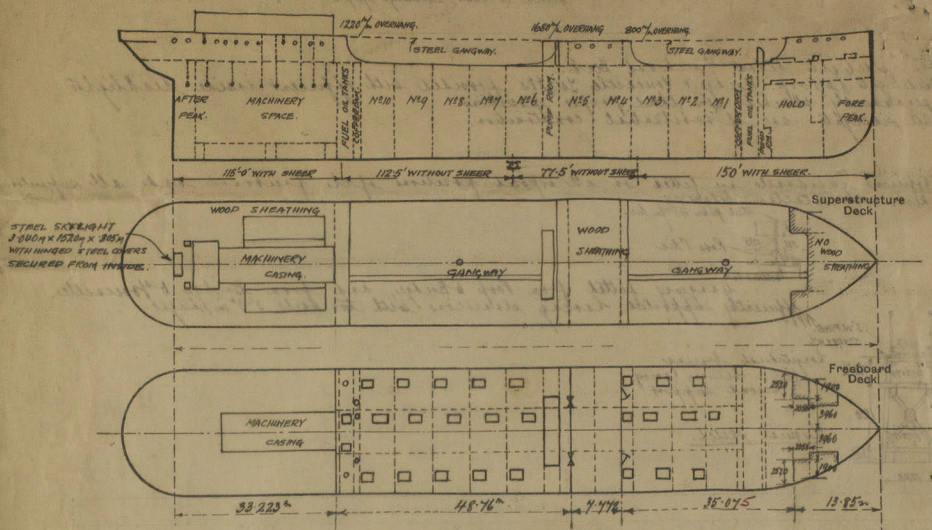
Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead	...	✓	No openings
Raised Quarter Deck Bulkhead	...	✓	
Bridge, After Bulkhead	...	✓	Starn boards fitted full height in riveted channels.
Bridge, Forward Bulkhead	...	✓	Two hatches W.T. Steel doors 15'25" x 4'60" 1/2
Forecastle Bulkhead	...	✓	Open Forecastle.
Exposed Machinery Casings on Free-board or Raised Quarter Decks	...	✓	
Exposed Machinery Casings on Super-structure Decks	...	✓	Two W.T. Steel doors 4'60" x 5'70" 1/2
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...	✓	
Deckhouses on Flush Deck Ships	...	✓	All doors are capable of being manipulated from both sides.

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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: Vessel surveyed afloat.*

*Forecastle*

13.55  
2.05  
11.50

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

Builder's name and yard number *Messrs Cia. Laskaldana N° 96.*

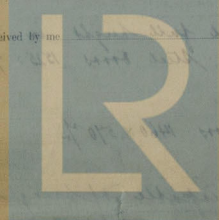
Names of sister ships *M.T. "CAMPOAMOR" Messrs Cia. Laskaldana N° 95.*

Ordered by *Messrs Compañía Anónima de Petróleos S.A. Madrid.*

Fee £ *175.990*

Received by me

*Expenses 10*



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