

10 NOV 1932

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Computation of Freeboard for ~~Steamship~~ Ship, Tanker

Poop, Trunk, Forecastle

Port of Survey **Aruba. D. W. I.**Date of Survey **Aug 24-25, 1932**Name of Surveyor **B. S. Whitham**Particulars of Classification **+ 100 A.I. with 1.39****freight carrying petroleum in bulk S.S. Co No 1-30**

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<b>T.S.S. "INVERRUBA"</b>	<b>British London</b>	<b>148628</b>	<b>2372</b>	<b>1925-7</b>
Moulded Dimensions: Length	Breadth	Depth		
<b>305.0</b>	<b>50.0</b>	<b>15.0</b>		
Moulded displacement at moulded draught = 85 per cent. of moulded depth			<b>4492</b>	tons
Coefficient of fineness for use with Tables			<b>809</b>	

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... .. <b>15.00</b> <b>50.0</b>	(a) Where D is greater than Table depth (D - Table depth) R = <b>✓</b>	Moulded Breadth (B) <b>50.0</b>
Stringer plate ... .. <b>0.03</b>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <b>(20.33 - 15.03) 2.346</b>	Standard Round of Beam = $\frac{B \times 12}{50} = \checkmark 12.0$
Sheathing on exposed deck <b>✓</b> $T \left( \frac{L-S}{L} \right) =$	<b>= - 12.43"</b>	Ship's Round of Beam = <b>12.0</b>
Depth for Freeboard (D) = <b>50.03</b>	If restricted by superstructures <b>✓</b>	Difference <b>~ 1 L</b>
		Restricted to
		Correction = $\frac{\text{Diff}^o}{4} \times (1 - \frac{S_1}{L}) = \checkmark 1 L$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ... ..	<b>66.5</b>	<b>66.50</b>	<b>7.0</b>		<b>66.50</b>
" overhang ... ..					
R.Q.D. enclosed ... ..					
" overhang ... ..					
Bridge enclosed ... ..	<b>22.0</b>		<b>17.5</b>		
" overhang aft ... ..					
" overhang forward ... ..					
Fore enclosed ... ..	<b>30.5</b>	<b>30.50</b>	<b>7.0</b>		<b>30.50</b>
" overhang ... ..	<b>4.0</b>	<b>2.00</b>	<b>7.0</b>		<b>2.00</b>
Trunk ... ..	<b>204.0</b>	<b>111.36</b>	<b>7.0</b>		<b>111.36</b>
" forward ... ..					
Tonnage opening aft P..	<b>36.0</b>		<b>7.0</b>		
" forward	<b>24.0</b>		<b>7.0</b>		
Total ... ..	<b>101.00</b>	<b>210.36</b>			<b>210.36</b>

Standard Height of Superstructure **6.55**" " R.Q.D. **✓**Deduction for complete superstructure **35.67**Percentage covered  $\frac{S}{L} = 33.12\%$ " "  $\frac{S_1}{L} = 68.98\%$ " "  $\frac{E}{L} = 68.98\%$ Percentage from Table, Line A. Tanker **61.90%**  
(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 = **35.67 x .6190 = -22.08"**

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ... ..	<b>40.50</b>	<b>1</b>		<b>40.50</b>	<b>11.0</b>	<b>12.00</b>	<b>1</b>		<b>12.00</b>
$\frac{1}{4}$ L from A.P. ... ..	<b>18.02</b>	<b>4</b>		<b>72.08</b>	<b>1.0</b>	<b>1.40</b>	<b>4</b>		<b>4.60</b>
$\frac{2}{4}$ L " ... ..	<b>4.45</b>	<b>2</b>		<b>8.90</b>	<b>0.0</b>	<b>0.00</b>	<b>2</b>		<b>0.00</b>
Amidships ... ..	<b>✓</b>	<b>4</b>		<b>0.0</b>	<b>✓</b>	<b>✓</b>	<b>4</b>		<b>✓</b>
$\frac{3}{4}$ L from F.P. ... ..	<b>8.91</b>	<b>2</b>		<b>17.82</b>	<b>1.0</b>	<b>0.00</b>	<b>2</b>		<b>0.00</b>
$\frac{1}{4}$ L " ... ..	<b>36.05</b>	<b>4</b>		<b>144.20</b>	<b>5.0</b>	<b>1.50</b>	<b>4</b>		<b>6.00</b>
F.P. ... ..	<b>81.00</b>	<b>1</b>		<b>81.00</b>	<b>17.0</b>	<b>15.00</b>	<b>1</b>		<b>15.00</b>
Total ... ..				<b>364.50</b>					<b>34.60</b>

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{329.90}{18} \left( .75 - \frac{16.56}{210.36} \right) = +10.78"$ 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.

Depth to Freeboard Deck = **15.03**  
 Summer freeboard = **1.85**  
 Moulded draught (d) = **13.18**

Deduction for Tropical freeboard and addition for  
 Winter freeboard =  $\frac{d}{4}$  inches = **3.29 = 3"**  
 Addition for Winter North Atlantic Freeboard (if required) = **3.05 = 3"**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$  **4643**

Tons per inch immersion at summer load water line

 $T =$  **33.00**Deduction =  $\frac{\Delta}{40 T}$  inches**= 3"**

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient **14.89**

	+	-
Depth Correction	<b>12.43</b>	
Deduction for superstructures	<b>22.08</b>	
Sheer correction	<b>10.78</b>	
Round of Beam correction		
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc.		
<b>10.71</b>	<b>34.57</b>	<b>- 23.80</b>
<b>Summer Freeboard = 22.29</b>		

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

Tropical Fresh Water Line above Centre of Disc ... **12.10"**  
 Fresh Water Line " " ... **12.32"**  
 Tropical Line " " ... **12.32"**  
 Winter Line below " " ... **3"**  
 Winter North Atlantic Line " " ... **6"**

Tropical Fresh Water Freeboard ... **12.10"**  
 Fresh Water " " ... **12.32"**  
 Tropical " " ... **12.32"**  
 Winter " " ... **3"**  
 Winter North Atlantic " " ... **6"**

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# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Description of Hatchway			5.0. P. hatches 20 Manholes. 1. Manhole Main cargo. Along tank. Goffed dm. Bulk top. Upper deck Bulk top			2. Cargo hatches Nos 3-4 main cargo hatches. Bulk top.			Hatches	
Dimensions of Hatchway			3'0" x 3'6" 18" x 13" 18" x 12"			6'0" x 5'6"			Hatch	
COAMINGS	{	Height above Deck	6' x 3 1/2" x 6' x 4" x 18" x 12"			1/2 inch compensating ring riveted to deck around hatchway.			Hatch	
		Thickness { Sides	3/8" 3/8" ✓						Hatch	
		Ends	✓						Hatch	
		Stiffeners	Flat bar ✓						Hatch	
		Brackets, Stays	3 1/2" x 1/2" ✓						Hatch	
HATCH BEAMS	{	Number	rivetted around inside of coaming with 1 inch distance piece for securing ply			Manhole cover 1/2 inch and fitted with two studs with dogs.			Hatch	
		Spacing	3/8" with one angle stiffener 4 x 3 x 3/8 and secured by 12 hoggles.						Hatch	
		Scantling and Sketch							Hatch	
		Bearing Surface							Hatch	
FORE AND AFTERS	{	Number	Hatch covers						Hatch	
		Spacing	3/8" with one angle stiffener						Hatch	
		Unsupported Lengths							Hatch	
		Scantling* and Sketch							Hatch	
		Bearing Surface							Hatch	
HATCH COVERS	{	Material	Steel			Steel			Steel	
		Thickness	3/8"			1/2"			1/2"	
		How fitted	hinged			hinged to hoggles			✓	
		Bearing Surface	0.7"			0.7"			11.7"	
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 fiddley, funnel and ventilator coamings:—

Engine and Fire-room ventilators and funnel in efficient condition.  
Fiddley enclosed.

Particulars of Flush Bunker Scuttles:—

None

Particulars of Companionways:—

Poop Deck one port side to Engine Bathroom and Steering Engine.  
" " one starboard " " Crew Bathroom and Messroom also Store room.  
Trunk Top Two each side P&S from trunk top to freeboard deck.

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

Forecastle Deck 2 - 12 inch. 36" x 5 1/16" coaming to Pump Room P&S.  
Trunk Top 2 - 6 inch. 24" x 1 1/4" " " Bofferdam aft.  
Poop Deck 1 - 4 inch. 24" x 1 1/4" " " Crew Mess Room.  
" " 1 - 12 inch. 30" x 5 1/16" " " Steering Engine.

Wood plugs and canvas covers provided

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

Forecastle Deck 2 - 3 inch to Fore Peak Tank. 6 ins above deck.  
" " 2 - 8" x 4" to Paint & Lamp Room. 26 ins " "  
" " 2 - Bollards with 8 inch vents from Fore Peak Tank. 24" above.  
Trunk Top 5 - 4 inch with gauge on main cargo hatches. 24" above  
2 - 2 " to Bofferdams under midship accommodation. 42" above.

Particulars of Gangway Cargo and Coaling Ports:—

None

Air pipes and air sounding pipes situated on the freeboard deck renewed and extended 7 ft above deck, secured to transverse bulkhead and fitted with gauge.

Freeboard Deck 4 - 3 1/2 inch to Wing Ballast Tanks 16 inches above.  
6 - 2 inch to Buoyancy Spaces. 8 inches above.  
10 - 2 inch air and sound to Ballast Tanks and Buoyancy Spaces above.  
2 - 4 inch air P&S Fuel Tanks. 3'6" above and through Bulkhead at the after end of deck.  
Poop Deck 1 - 8" x 4" to Engine Bathroom.  
1 - 8" x 4" " Crew  
2 - 3 inch air and filling to after Peak Tank. 8" above.  
2 - 2 " " " " Feed Tank 12" above.  
4 - Bollards with 6 and 8 inch vents from Steering Flat. Store rooms etc.

Wood plugs, canvas covers provided for air pipes not fitted with gauge



Particulars of Scuppers and Sanitary Discharge Pipes — 3-4 inch storm discharge valves on ships side from officers, Engineer and crew W.C.'s. Storm valves from 1 1/2 to 3 inch on all remaining discharges from scuppers, wash basins etc and efficient traps fitted at the inboard end. all storm valves of cast brass with brass valve faced with leather and brass pin.

Particulars of Side Scuttles: *all side scuttles fitted with efficient hinged doors with hinged dead lights permanently attached.*

Particulars of Guard Rails:—  
 Forecastle Deck 3' 6" high . 3 rails stanchions spaced 4' 6"  
 Trunk Top 3' 6" " . 2 " " 4 to 5 ft  
 Freeboard Deck 3' 6" " . 2 " " 4 to 5 ft  
 Poop Deck 3' 6" " . 3 " " 4 to 5 ft

Particulars of Gangways, Lifelines, etc.:

*Trunk Top forms a gang-way between the Poop and the Forecastle. (crew accommodation aft)*

#### 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 on all weather decks</i>					
Forward Well ...						
State position of each freeing port ... (F. and A. position and height above deck edge) } After 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 ...	✓	30 top 38 bot	6x3x36 BA 6x3x42 BA	22" Centre 25 1/2 wings	Bkt	5'x3' to Lonnage space after end freeboard deck	15"	4'0"
Raised Quarter Deck Bulkhead ...	✓	✓	✓	✓	✓	stiffened with channel bars	✓	✓
Bridge, After Bulkhead ...	3 1/2 x 3 1/2 x 32	26 & 30	3 x 3 x 30	33"	Bkt	2-2'3"x6'6" manhole door 16" to Copperdam F&A	8'4"	17'6"
Bridge, Forward Bulkhead ...	"	"	"	"	"	✓	✓	✓
Forecastle Bulkhead ... and Pump R.	✓	30 top 36 floor	5 1/2 x 3 x 34 x 6 x 3 x 30 BA	30" 24 wings	Bkt	✓	✓	✓
Trunk, ... after end Pump Room	✓	30 top 38 bot	6 x 3 x 30 BA 9 x 3 x 50 BA	22" Centre 24 wings	Bkt	✓	✓	✓
Trunk, ... fore & aft	5x5x3/4	✓	5 1/2 x 3 x 36 BA	24"	Bkt	✓	✓	4'0"
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	✓	✓	cleared from base of trunk	✓	✓	✓	✓	✓
Exposed Machinery Casings on Superstructure Decks ...	5x5x40	26 & 28	3 x 3 x 32	24"	✓	✓	✓	7'6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	✓	✓	✓	✓	✓	✓	✓	✓
Deckhouses on Flush Deck Ships ...	✓	✓	✓	✓	✓	✓	✓	✓

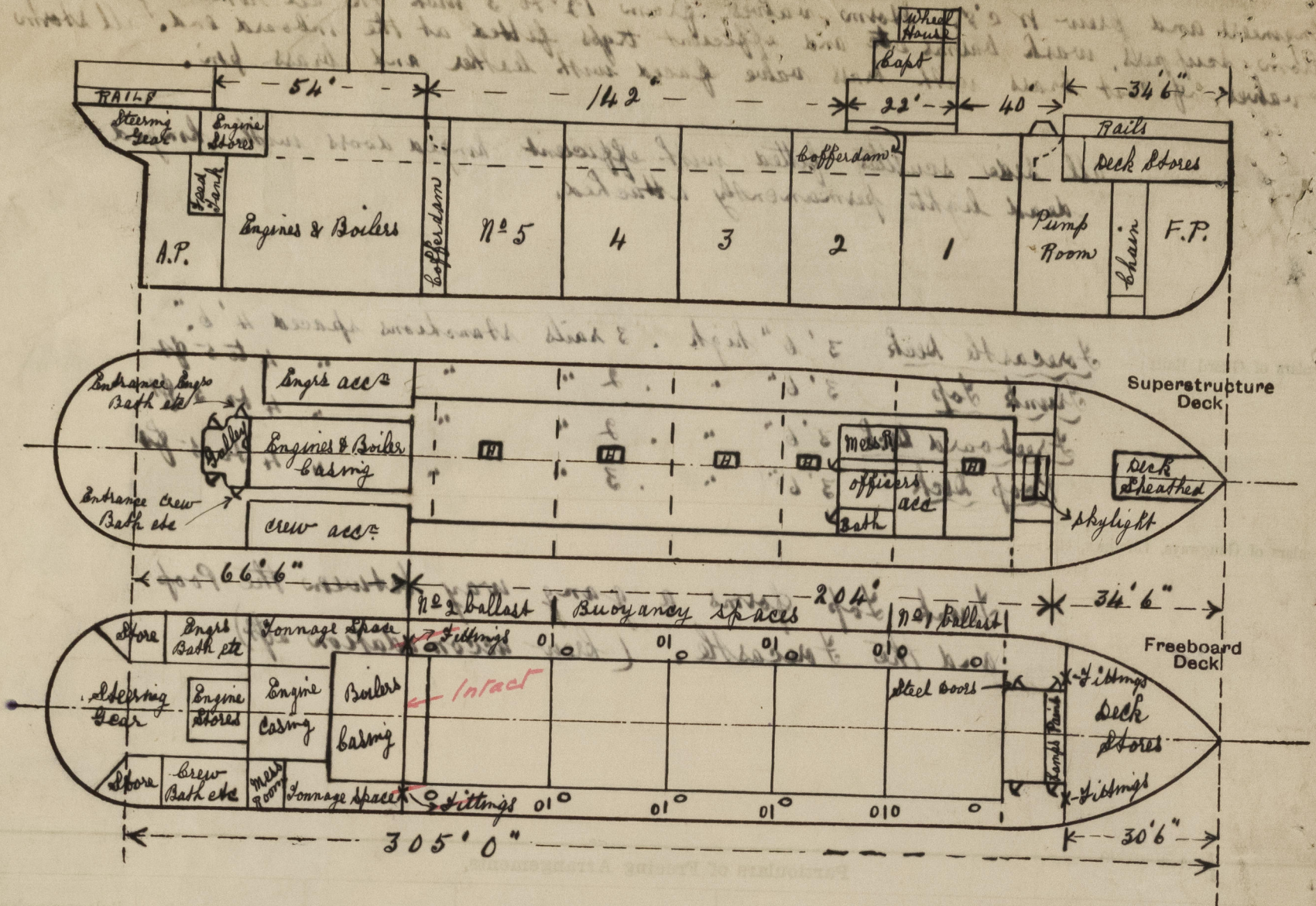
#### Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead ...	<i>openings to Lonnage space P&amp;S on after end freeboard deck stiffened with channel bars for shifting boards.</i>
Raised Quarter Deck Bulkhead ...	<i>Two wooden doors to officers lat and bathroom capable of being manipulated both sides</i>
Bridge, After Bulkhead ...	<i>No openings excepting manhole to copperdam 16" x 14"</i>
Bridge, Forward Bulkhead ...	<i>openings 5'x3' with 15" sill P&amp;S to Fore Peak flat from freeboard deck openings stiffened by channel bars for receiving shifting boards</i>
Forecastle Bulkhead ...	<i>No openings.</i>
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	<i>Steel doors P&amp;S with 15" sill to Pump Room, Paint Room &amp; Lamp Room. Doors manipulated from freeboard deck and capable of being opened from both sides.</i>
Exposed Machinery Casings on Superstructure Decks ...	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	
Deckhouses on Flush Deck Ships ...	



# Inverrosa

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:—

Builder's name and yard number *Harland & Wolff Ltd.* Hull No. *702.*

Names of sister ships *"Inverlago"; "Invercaibo"; "Inverrosa"*

Owners *Lago Shipping Co. Ltd.* *M. J. A. New & Co.*

Fee £ *150 00*

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