

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

 Computation of Freeboard for ~~Steamer~~ *Sailing Ship, Tanker*
 having *Poop, Trunk, Forecastle*
Port of Survey *Aruba, S. W.*

(Type of Superstructures.)

Date of Survey *Oct 4 1932*Ship's Name *T.S.S. "ICOTEA"*Nationality and Port of Registry
*British London*Official Number
*149846*Gross Tonnage
*2402*Date of Build
*1927-6*Name of Surveyor *E. S. Whitham*
 Moulded Dimensions: Length *305.0* Breadth *50.0* Depth *15.0*
 Moulded displacement at moulded draught = 85 per cent. of moulded depth *4492* tons
 Coefficient of fineness for use with Tables *.809*

 Particulars of Classification *+100 A1 with 129*
~~Freeboard~~ *S.S. Csg. No. 1-32*
Carrying petroleum in bulk.

Depth for Freeboard (D)			Depth correction		Round of Beam correction	
Moulded depth	...	<i>15.0</i>	(a) Where D is greater than Table depth (D-Table depth) R =	<i>✓</i>	Moulded Breadth (B)	<i>50.0</i>
Stringer plate	...	<i>.03</i>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	<i>(20.33 - 15.03) 2.346</i>	Standard Round of Beam = $\frac{B \times 12}{50}$	<i>12.0</i>
Sheathing on exposed deck	...	<i>✓</i>		<i>= -12.43"</i>	Ship's Round of Beam	<i>12.0</i>
$T \left(\frac{L-S}{L} \right) =$			If restricted by superstructures	<i>✓</i>	Difference	<i>NIL</i>
Depth for Freeboard (D) =		<i>15.03</i>			Restricted to	
					Correction = $\frac{\text{Diff}^o}{4} \times \left(1 - \frac{S_1}{L} \right)$	<i>NIL</i>

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<i>66.5</i>	<i>66.50</i>	<i>7.0</i>		<i>66.50</i>
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	<i>22.0</i>		<i>17.5</i>		
" overhang aft ...					
" overhang forward ...					
Fore enclosed ...	<i>30.5</i>	<i>30.50</i>	<i>7.0</i>		<i>30.50</i>
" overhang ...	<i>4.0</i>	<i>2.00</i>	<i>7.0</i>		<i>2.00</i>
Trunk aft ...	<i>204.0</i>	<i>111.36</i>	<i>7.0</i>		<i>111.36</i>
" forward ...					
Tonnage opening aft P.	<i>44.0</i>		<i>7.0</i>		
" " forward	<i>30.0</i>		<i>7.0</i>		
Total ...	<i>101.00</i>	<i>210.36</i>			<i>210.36</i>

 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*
 (corrected for absence of forecastle (if required)) *61.90%*
 Percentage from Table, Line B.
 (corrected for absence of forecastle (if required))
 Interpolation for bridge less than 2L (if required)
 Deduction = *35.67 x .619 = -22.08"*

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	<i>40.50</i>	1	<i>40.50</i>	<i>12.00</i>	<i>12.00</i>	1	<i>12.00</i>
$\frac{1}{4}$ L from A.P. ...	<i>18.02</i>	4	<i>72.08</i>	<i>.40</i>	<i>.40</i>	4	<i>1.60</i>
$\frac{2}{4}$ L " ...	<i>4.45</i>	2	<i>8.90</i>	<i>0</i>	<i>0</i>	2	<i>0</i>
Amidships ...	<i>✓</i>	4	<i>✓</i>	<i>✓</i>	<i>✓</i>	4	<i>✓</i>
$\frac{3}{4}$ L from F.P. ...	<i>8.91</i>	2	<i>17.92</i>	<i>0</i>	<i>0</i>	2	<i>0</i>
$\frac{1}{4}$ L " ...	<i>36.05</i>	4	<i>144.20</i>	<i>1.50</i>	<i>1.50</i>	4	<i>6.00</i>
F.P. ...	<i>81.00</i>	1	<i>81.00</i>	<i>15.00</i>	<i>15.00</i>	1	<i>15.00</i>
Total ...			<i>364.00</i>				<i>34.00</i>

 Mean actual sheer aft = *Deficient*
 Mean standard sheer aft =

 Mean actual sheer forward = *Deficient*
 Mean standard sheer forward =

 Length of enclosed superstructure forward of amidships =
 " " aft of " = *Tanker.*

 Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{329.9}{18} (.75 - .1656) = +10.71"$

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\frac{1}{4}"*Addition for Winter North Atlantic Freeboard (if required) = *3.05" = 3"*

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 4693$

Tons per inch immersion at summer load water line

T = *33.00*Deduction = $\frac{\Delta}{40 T}$ inches= *3.55*= *3\frac{1}{2}"*

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient

 $\frac{809 + 68}{1.36} = \frac{1487}{1.36}$ *42.10**46.09*Depth Correction ... *12.43*Deduction for superstructures ... *22.08*Sheer correction ... *10.71*

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

Summer Freeboard = *22.29*

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

Tropical Fresh Water Line above Centre of Disc ... *6\frac{3}{4}"*Fresh Water Line " " ... *3\frac{1}{2}"*Tropical Line " " ... *3\frac{1}{4}"*Winter Line below " " ... *3\frac{1}{4}"*Winter North Atlantic Line " " ... *6\frac{1}{4}"*

Tropical Fresh Water Freeboard ...

Fresh Water " " ...

Tropical " " ...

Winter " " ...

Winter North Atlantic " " ...

6 DEC 1932

MARKING FORM

11 JUN 1933

MARKING FORM

14 SEP 1935

Lloyd's Register Foundation

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

Description of Hatchway		5. O. T. H. Main Cargo Hatch Top	20 Manholes 1 manhole upper deck	2 Cargo Hatches 1st 3-4 Stanks					
Dimensions of Hatchway		3' x 3' 6"	18" x 13"	16 x 12	6 x 5' 6"				
COAMINGS	Height above Deck	6 x 3 1/2	4 x 3	✓	3 x 1/2 compensating ring rivetted around hatchway.				
	Thickness { Sides Ends	3/8	3/8	✓	✓				
	Stiffeners	Flat bar	none		1/2 inch top plate				
	Brackets, Stays	3 1/2 x 1/2	✓		with two 5 1/2 x 3 B.A. stiffeners. 3/4 Lap bolts up through deck and compensating ring for securing hatch cover.				
HATCH BEAMS	Number	rivetted around							
	Spacing	inside of coaming	✓	✓	✓				
	Scantling and Sketch	with 1 inch distance piece for receiving packing.							
FORE AND AFTERS	Number	Hatch covers 3/8	✓	✓	✓				
	Spacing	with one angle stiffener 4 x 3 x 3/8	✓	✓	✓				
	Unsupported Lengths Scantling* and Sketch	and secured by 12 toggles							
HATCH COVERS	Material	Steel	Steel	Steel	Steel				
	Thickness	3/8	1/2 inch	3/8	1/2 inch				
	How fitted	hinged	hinged	hinged with dogs	Lap Bolts				
Bearing Surface		O. T.	W. T.	W. T.	O. T.				
Spacing of Cleats		✓	✓	✓	✓				
Number of Tarpaulins		✓	✓	✓	✓				
<p>*Are wood fore and afters steel shod at all bearing surfaces?</p> <p>Are battens and wedges efficient and in good condition?</p> <p>Are tarpaulins in good condition and in accordance with rule requirements?</p> <p>Are lashings provided in accordance with rule requirements?</p>									

Particulars of fiddle, funnel and ventilator coamings:—

The ventilators to Fore-room and Engine Room in efficient condition.
The Engine Room skylights of Steel, strongly constructed and in efficient condition.
No openings to deck in Boiler casing.

Particulars of Flush Bunker Scuttles:—

None

Particulars of Companionways:—

None

4 Ladders with hand rails fitted from Trunk Top to Freeboard Deck.

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

Forecastle Deck 2 - 12 inch 36 x 5/16 coaming to Pump Room.
Trunk Top 2 - 6 inch 24 x 1/4 " " Bofferdam
Poop Deck 1 - 12 inch 30 x 5/16 " " Steering Gear.
" " 1 - 9 inch 24 x 1/4 " " Brew Mess-Room.

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

Forecastle Deck 2 - 3 inch vents and filling to Fore Peak Tank, 4 ins above.
2 - 8 x 4 inch " to Paint & Lamp Rooms, 26 ins above.
2 - Bollards with 8 inch vents from Fore Peak Flat, 24" above.
Trunk Top 5 - 1/2 inch vents with gauge on Main Cargo Hatches, 18" above.
2 - 2 inch " to Bofferdam under midship accommodation, 42" above.

Particulars of Gangway Cargo and Coaling Ports:—

None

Freeboard Deck 4 - 3 1/2" vents to wing Ballast Tanks, 4" above deck.
6 - 2" vents to Buoyancy spaces 2" " "
10 - 2" air & sound to Buoyancy spaces & Ballast Tanks, 8 ins above.
2 - 4" air and sound to Fuel oil Tanks, 5 ft above deck.
Poop Deck 2 - 3 inch air and filling to after Peak Tank, 4 ins above deck.
2 - 8 x 4 vents to Engls and Brew Bathrooms, 26 ins above deck.
2 - 2 1/2 inch air and sound to Boiler Feed Tank, 12 ins above.
4 - Bollards with 8 inch vents from Steering Engine Flat, 10' 3" etc.

Efficient Closing appliances provided for the ventilator coamings & air pipes & already fitted with gauge.

Icotea

Particulars of Scuppers and Sanitary Discharge Pipes — 3-4 inch storm valves fitted on ship's side on discharges from officers, Engls and crew W.C's. Storm valves on all remaining discharges. Efficient traps fitted on the inboard end of all discharges from wash basins etc in officers quarters amidships and Engineers and crew quarters aft. All storm valve chests of cast brass with brass valves and brass pins.

Particulars of Side Scuttles:

all side scuttles fitted with efficient hinged doors with hinged covers permanently attached.

Particulars of Guard Rails:— Forecastle Deck

Trunk Top open rails. 3'6" high. 2 rails. Stanchions spaced 4'6" open rails. 3'6" high. 3 rails. Stanchions spaced 4'6" to 5' ft.
Freeboard Deck open rails. " " " " "
Poop Deck open rails. " " 3 rails. " " "

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	open rails	3'6"	2 rails	2	1.5	0.5
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.						

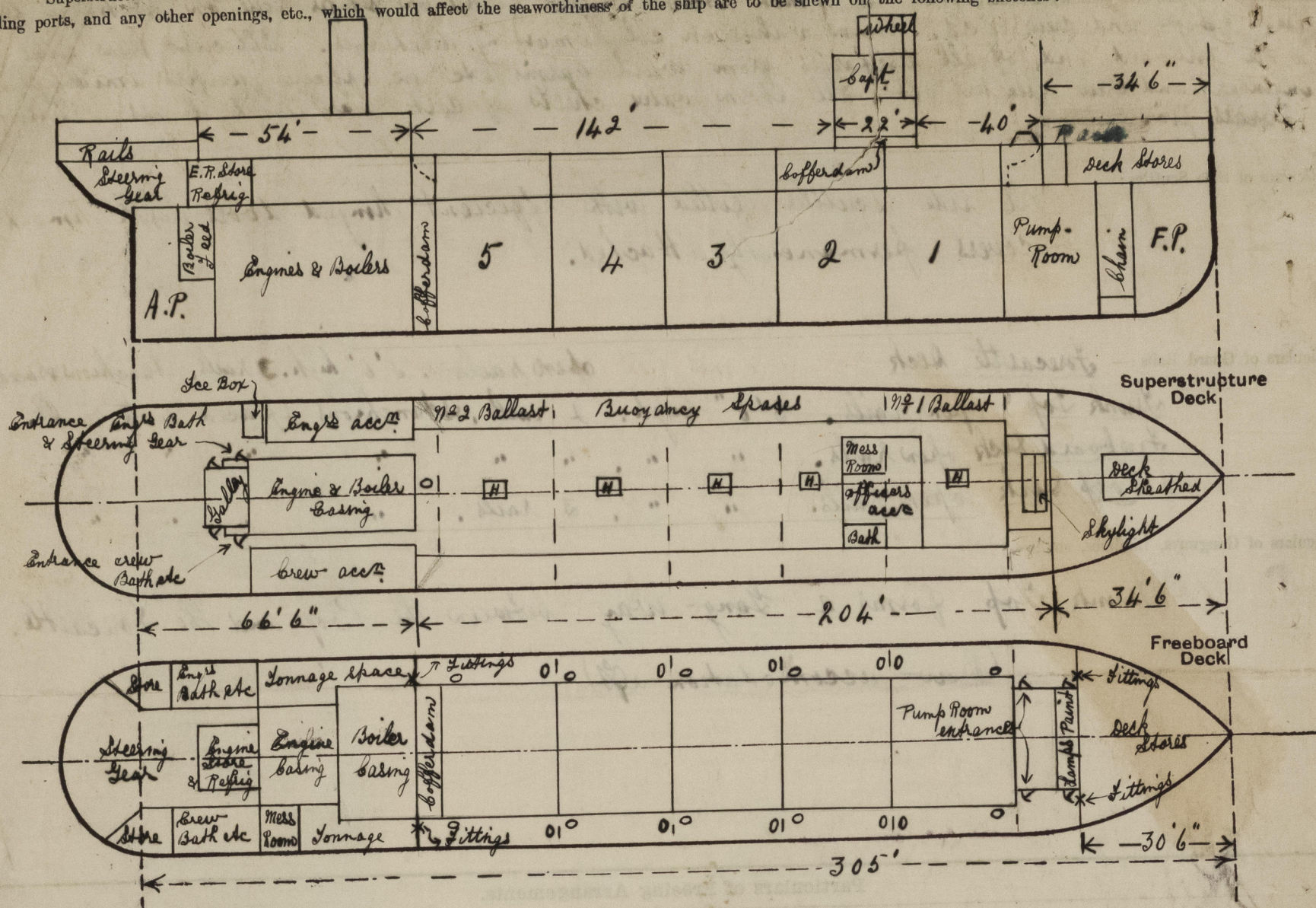
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	✓	30 top 38 bot	6x3x36 Ba 6x3x42 Ba	22 centre 25 1/2 wings	B&E	5'3" to tonnage spaces	15"	14'0"
Raised Quarter Deck Bulkhead ...	✓	26	✓	✓	✓	✓	✓	✓
Bridge, After Bulkhead	3 1/2 x 3 1/2 x 32	30 corners	3 x 3 x 30	33	B&E	Two 2'3"x6'6" 2 manhole doors to cofferdam	2'4" from deck	14'6"
Bridge, Forward Bulkhead	"	"	"	"	"	"	"	"
Forecastle Bulkhead ... end Pump Room	✓	30 top 36 floor	5 1/2 x 3 x 34 1/2 6 x 3 x 30 Ba	30 22 centre	"	✓	✓	✓
Trunk, Aft ... after, " ... "	✓	30 top 38 bot	6 x 3 x 30 Ba 9 x 3 x 50 Ba	22 centre 24 wings	"	✓	✓	✓
Trunk, Forward and aft	5x5x40	44	5 1/2 x 3 x 32 Ba	24	"	✓	✓	7'0"
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	✓	✓	✓	✓	✓	✓	✓	✓
Exposed Machinery Casings on Superstructure Decks ...	5x5x40	26 28	3 x 3 x 32	24	B&E	✓	✓	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	openings to Tonnage Spaces P & S on after end of Foreboard Deck stiffened by channel bars for receiving shifting boards.
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead	Two wooden doors to officers Quarters & Bathroom capable of being manipulated both sides.
Bridge, Forward Bulkhead	Manhole door to cofferdam under officers B&E secured with top bolts and nuts.
Forecastle Bulkhead	Steel doors with 15" sill P & S to Pump Room, Paint Room and Lamp Room. Doors manipulated from foreboard deck and capable of being opened from both sides. height of sill
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	No openings.
Exposed Machinery Casings on Superstructure Decks ...	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	openings 5'x3' with 16" sill P & S to Fore Peak Flat from foreboard deck. openings stiffened by channel bars for receiving shifting boards.
Deck Ships	

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 surveyed for International Load Line Requirements while lying afloat and laid up and it is requested by the owners representative that the docking and S.S. No 1 completed August 3rd 1932. (See Cco report No 538) be accepted to meet the Load Line Requirements. as their Lake Tanker Fleet was built by the same builder and the majority from the same plans.

This vessel measured at this time with the exception of the Sheer.

Builder's name and yard number. *Harland & Wolff Ltd Hull No 493*
 Names of sister ships. *"La Palma"; "San Carlos"; "Lagunilla"*
 Owners. *Lago Shipping Co Ltd M^{rs} A. Weir & Co*
 Fee *£ 150 00* Received by me *[Signature]*