

DISCLOSED
Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.Index. No. 31530
(For London Office only.)

No. 454

Computation of Freeboard for ~~Steamer~~ *Sailing Ship*, Tanker
having *Poop Trunk Forecastle & open bridge.*
ESSO PANAMA
MOTATAN (Type of Superstructures.)
Ship's Name *"PARAGUANA"* Nationality and Port of Registry *Maracaibo, London British* Official Number *148116* Gross Tonnage *1944* Date of Build *1925-1*
Moulded Dimensions: Length *280.0'* Breadth *47.0'* Depth *16.5'* *1964 (20' 10" 30")*
Moulded displacement at moulded draught = 85 per cent. of moulded depth *4192* tons
Coefficient of fineness for use with Tables *.795*
Port of Survey *aruba. N.W.I.*
Date of Survey *oct 23rd 1935*
Name of Surveyor *S.S. Whitham*
Particulars of Classification *+100 A1. 431.*
S.S. N.V.K. 721-29, S.S. 722, held at this time.
Carrying petroleum in bulk.

Depth for Freeboard (D)			Depth correction		Round of Beam correction	
Moulded depth	...	...	(a) Where D is greater than Table depth (D - Table depth) R =	✓	Moulded Breadth (B)	47'
Stringer plate	...	...	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	(18.67 - 16.54) 2.154 = 4.59"	Standard Round of Beam = $\frac{B \times 12}{50}$	= 11.28"
Sheathing on exposed deck	✓		If restricted by superstructures	4.59" - 6.30" = - 3.04"	Ship's Round of Beam	= 11.75"
$T \left(\frac{L-S}{L} \right) =$					Difference	.47"
Depth for Freeboard (D) =	16.545				Restricted to	
					Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right)$	= $\frac{.47^2}{4} \times .2877 = -.03"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	68.50	68.50	7.25	✓	68.50	Standard Height of Superstructure 6.3'
" overhang ...						" " R.Q.D. 4.4'
R.Q.D. enclosed ...						Deduction for complete superstructure 34.00"
" overhang ...						Percentage covered $\frac{S}{L} = 43.22\%$
Bridge enclosed <i>open</i> ...	22.0	11.00	7.25	✓	11.00	" " $\frac{S_1}{L} = 71.23\%$
" overhang aft ...						" " $\frac{E}{L} = 55.20\%$
" overhang forward						Percentage from Table, Line A. Tanker
F'cle enclosed <i>open</i> ...	30.5	15.25	7.25	✓	15.25	(corrected for absence of forecastle (if required)) 46.72%
" overhang ...						Percentage from Table, Line B.
Trunk aft <i>148'</i> ...		69.90	4.0	$\frac{4}{6.3} \times 9$	39.94	(corrected for absence of forecastle (if required))
" forward ...		34.79	"	6.3	19.88	Interpolation for bridge less than .2L (if required)
Tonnage opening aft ...						Deduction = 34.00 x .4672 = - 15.89"
" forward						
Total ...	121.00	199.44			154.57	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	38.00	1		38.00	27.0	27.0	1		27.00
$\frac{1}{2}$ L from A.P. ...	16.91	4		67.64	3.5	3.20	4		12.80
$\frac{2}{2}$ L " ...	4.18	2		8.36	0.0	0	2		0
Amidships ...	✓	4		✓	0.0	✓	4		✓
$\frac{2}{2}$ L from F.P. ...	8.36	2		16.72	0.0	0	2		0
$\frac{1}{2}$ L " ...	33.82	4		135.28	4.0	2.60	4		10.40
F.P. ...	76.00	1		76.00	48.0	48.0	1		48.00
Total ...				342.00					98.20

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{243.81}{18} (.75 - .2161) = + 7.23"$$

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.		Deduction for Fresh Water.		TABULAR FREEBOARD corrected for Flush Deck (if required)	
Addition for Winter and Winter North Atlantic Freeboard.		Displacement in salt water at summer load water line		Correction for coefficient $\frac{.795 + .68}{1.36} = \frac{14.75}{1360}$	
Depth to Freeboard Deck =		Δ =		Depth Correction ...	
Summer freeboard =		Tons per inch immersion at summer load water line		Deduction for superstructures ...	
Moulded draught (d) =		T =		Sheer correction ...	
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{\Delta}{4}$ inches =		Deduction = $\frac{\Delta}{40T}$ inches =		Round of Beam correction ...	
Addition for Winter North Atlantic Freeboard (if required) =				Correction for Thickness of Deck amidships ...	
Existing Cargo freeboards reassigned being more favourable than those computed as a				Other corrections, scantlings, etc. ...	
TANKER under the Convention Regulations.				7.23 18.96 - 11.73	
SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-				summer Freeboard = 28.51	
Existing freeboards as reassigned being more favourable than those computed under the Convention Regulations.					
Tropical Fresh Water Line above Centre of Disc ...					
Fresh Water Line " " ...					
Tropical Line " " ...					
Winter Line below " " ...					
Winter North Atlantic Line " " ...					

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	10. O.T.H. Main Cargo Trunk Top	2. O.T.H. Fuel Tanks Trunk Top	1. W.T.H. Cargo Hold Trunk Top	1. W.T.H. F.W. tank spaces Poop Deck	1. W.T.H. P. Store Trunk Top Poop Deck	1. W.T.H. Ballast Pump Chain Locker Upper Deck	1. W.T.H. 1 manhole F.P. tank upper deck	1. W.T.H. 1 skylight Pump Room Trunk Top	
Dimensions of Hatchway	2'6" x 4'	2'6" x 4'	8' x 10'	3' x 4'	3' x 3'6"	2' x 5'	14" x 13"	5' x 5'6"	
COAMINGS	Height above Deck	6' x 3" ✓	6' x 3" ✓	9' x 3' 3/4" B.A.	2'6"	1'6"	2'6"	6' x 3" [	18"
	Thickness	40	40	40	44	44	44	40	40
	Sides	✓	✓	✓	✓	✓	✓	✓	✓
	Stiffeners	✓	✓	✓	✓	✓	✓	✓	✓
HATCH BEAMS	Brackets, Stays	✓	✓	✓	✓	✓	✓	✓	✓
	Number	Channel	one	angles riveted	angles riveted	Division plate in			
	Spacing	bar riveted	9' x 30"	inside of	inside of	centre and	✓	✓	
	Scantling and Sketch	to angles	3' x 3' 3/4" angles	coaming	coaming	angles riveted			
FORE AND AFTERS	Bearing Surface	for seating	steel	for seating	for seating	inside of			
	Number	8 inch	same as Main Cargo H.	beading	half R.R.	hatch			
	Spacing	light hole		riveted	beading bar	covers &	✓	✓	
	Unsupported Lengths	in cover	none	around	riveted	beading			
HATCH COVERS	Scantling* and Sketch	secured by 2 toggles and hinged.		top of	around top	bar			
	Bearing Surface			coaming.	of coaming.	riveted			
	Material	Steel	Steel	wood	wood	wood	Steel	Steel	
	Thickness	40	40	2 1/2"	2 1/2"	2 1/2"	1/2"	25	
HATCH COVERS	How fitted	Hinged 10	Hinged 10	portable	portable	portable	bolted	hinged	
	Bearing Surface	toggles. O.T.	toggles. O.T.	wood	wood	wood	W.T.	W.T.	
	Spacing of Cleats	✓	✓	22" & 24"	18" & 22"	18" & 21"	✓	✓	
	Number of Tarpaulins	✓	✓	Two	Two	Two	✓	✓	
<p>*Are wood fore and afters steel shod at all bearing surfaces? ✓</p> <p>Are battens and wedges efficient and in good condition? Yes ✓</p> <p>Are tarpaulins in good condition and in accordance with rule requirements? Yes ✓</p> <p>Are lashings provided in accordance with rule requirements? ✓</p>									

Particulars of fiddle, funnel and ventilator coamings:—

The fiddle open on top and fitted with hinged steel storm covers in efficient condition. The funnel and all ventilator coamings with their closing appliances in efficient condition.

Particulars of Flush Bunker Scuttles:—

None

Particulars of Companionways:—

Entrances from the poop deck P & S to the crew quarters. The entrances fitted with steel hinged doors with 18" sill and closing appliances capable of being manipulated from both sides. ✓

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

1-8 inch Vent. 1/4" x 36" to fore peak flat on forecastle head.
 1-15 inch " 3/8" x 9" (Port to forecastle (Bd) to fore hold on upper deck.
 1-15 inch " 3/8" x 36" to fore hold on trunk top.
 2-15 inch " 3/8" x 36" to pump-room on trunk top.

2-9 inch. 1/4" x 36" on poop deck to F.W. tank spaces.
 1-9 inch. 1/4" x 36" " " " " Crew qtrs port.
 2-15 inch 5/16" x 36" " " " " Steering gear
 1-6 inch 1/4" x 36" " " " " Engine Room Store.

Closing appliances on hand for all ventilator coamings.

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

1-4 inch to fore-peak tank. 16 ins above.
 10-3 inch on main cargo hatches with wire gauze. 16" above H.
 2-6 inch " Fuel Tank " " " 15" above H.
 2-2 1/2 inch to F.W. tanks on Poop Deck. 15" above.
 2-3 inch to B.R. " " " 15" " ✓
 2-3 inch to E.R. " " " 15" " ✓
 2-4 inch to W.C.'s " " " 15" " ✓
 2-3 inch to A.P. tank " " " 16" " ✓

Closing appliances on hand for all air pipes except those fitted with wire gauze.

Particulars of Gangway Cargo and Coaling Ports:—

None



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Particulars of Scuppers and Sanitary Discharge Pipes :— Storm valves fitted to the discharges from W.C's, wash-basins etc and efficient traps fitted at the inboard end. Storm valves of cast brass with brass valves and pin cast on the valve. Five Scuppers P & S from the upper deck, the scuppers passing through the main cargo tanks and all in efficient condition.

Particulars of Side Scuttles :— Side scuttles in efficient condition and fitted with covers permanently attached and in efficient condition.

Particulars of Guard Rails :— Forecastle Deck 2 rails. Stanchions spaced 5 ft. Rails 3'0" high.
Bridge at sides. 2 " " 5 ft " " "
Upper deck 2 chains. " " 5 ft " " "
Poop deck 2 rails " " 5 ft " " "
Gangway 1 " " 5 ft " " "

Particulars of Gangways, Lifelines, etc. :—
Gangway fitted between poop bridge.
(Crew berthed aft).

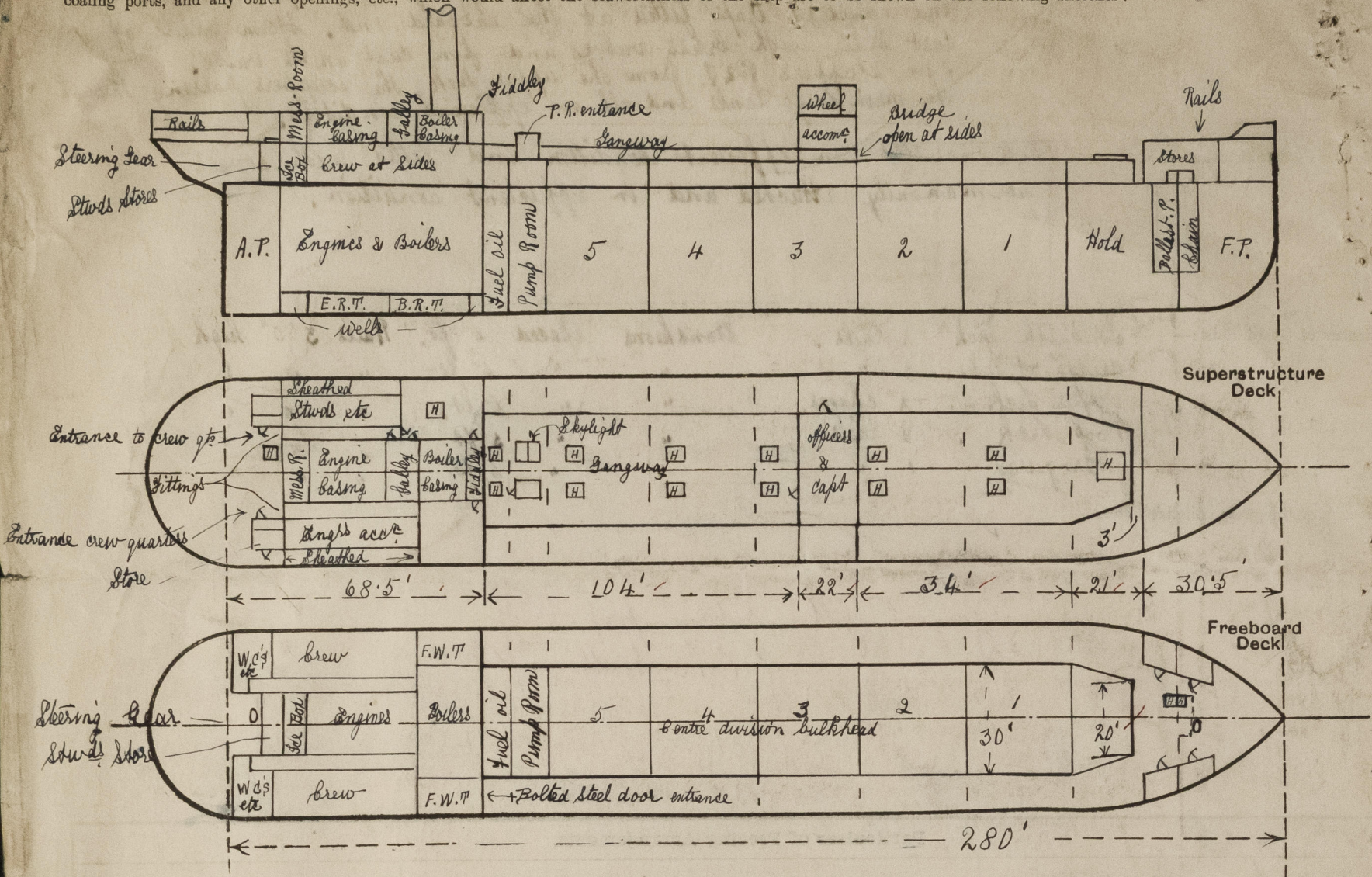
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	open rails on all weather decks ✓					
Forward Well						
State position of each freeing port } After Well :— (F. and A. position and height 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 after end upper deck	5x3x3/8 x 6x3x1/2	.38	8 1/2 x 3 BA	24"	Bolt	none	✓	4'0"
Raised Quarter Deck Bulkhead	✓	.40	6 1/2 x 9 1/2 BA	28"	"	"	✓	✓
Bridge, After Bulkhead	✓	✓	✓	✓	✓	✓	✓	✓
Bridge, Forward Bulkhead	✓	✓	✓	✓	✓	✓	✓	✓
Forecastle Bulkhead	Side houses for deck stores each 9 ft wide. ✓							
Trunk, Aft	Bottom plate flanged and riveted to deck (48 plating)	6 1/2 BA	24"	Bolt	✓	✓	✓	4'0"
Trunk, Forward	3x3x1/40	.40	3 1/2 x 3 1/2 x 30 x	30"	✓	✓	✓	4'0"
Exposed Machinery Casings on Free-board or Raised Quarter Decks	✓	✓	✓	✓	✓	✓	✓	✓
Exposed Machinery Casings on Super-structure Decks	3x3x3/4	.32	3x2 1/2 x 32 x	31"	none	4'9" x 1'9"	✓	4'3"
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	No openings
Raised Quarter Deck Bulkhead	" "
Bridge, After Bulkhead	Bridge open at sides ✓
Bridge, Forward Bulkhead	
Forecastle Bulkhead	Forecastle open. Side houses 9' wide forming after bulkhead and built in under forecastle.
Exposed Machinery Casings on Free-board or Raised Quarter Decks	Side houses fitted with steel hinged doors, 18" sill. Doors capable of being opened both sides.
Exposed Machinery Casings on Super-structure Decks	Steel hinged half doors for the full height with 18" sill. Doors fitted with closing appliances capable of being manipulated from both sides. Steel hinged doors with 18" sills to crew lts & fwd and Passageway. Fittings for full height at after end of passage-way.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships	

Wotatam

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 shewn on the following sketches:—



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

$$\text{Trunk aft. } (104.0 + 5.5) \times \frac{30}{47} = 69.9$$

$$\text{Trunk fwd. } \left[(34 + 5.5) \times \frac{30}{47} \right] + \left(18.0 \times \frac{20 + 30}{2 \times 47} \right) = 34.79$$

Mean height of trunk etc. at way of 6L amidships for depth correction

$$\frac{(12.5 \times 6.3) + (55.5 \times 4.0)}{68} = 4.17$$

Builder's name and yard number Palmer's Co. Ltd. Newcastle Hull No 953

Names of sister ships ✓

Owners Venezuela Gulf Oil Co.

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