

Rpt. C.M. (Comp.)

No. 8048

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Owners C11

LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

SURVEYS FOR FREEBOARD

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER)

Ship's Name "P A R A N A G U A"	Official Number -	Nationality and Port of Registry BRAZILIAN RIO DE JANEIRO.	Gross Tonnage About 4000 Tons 3992	Date of Build APRIL 1961	Port of Survey HELSINGFORS
Moulded Dimensions: Length 117.348 m. Breadth 16.612 m. Depth 7.239 m. Freeboard Length 117.348 (at d=6.75 m.) Moulded displacement at moulded draught = 85 per cent. of moulded depth 8.220 m ³ tons (excluding bossing) Coefficient of fineness for use with Tables 6855 685					Date of Survey DURING CONSTRUCTION
Surveyor's Signature <i>Wm. M. Culloch</i>					Particulars of Classification 100 A 1 (Contemplated)

DEPTH FOR FREEBOARD (D). Moulded depth 7.2390 Stringer plate 8.5 mm0085 Wood Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ - Depth for Freeboard (D) = 7.2475 7.248	DEPTH CORRECTION. (a) Where D is greater than Table depth (D-Table depth) R = (b) Where D is less than Table depth (if allowed) (Table depth-D) R = $9.33(7.823-7.248) \times 117.348 = 142 \text{ mm}$ If restricted by superstructures No.	ROUND OF BEAM CORRECTION. Moulded Breadth (B) 16.612 Standard Round of Beam = $\frac{B \times 12}{50} = 332 \text{ mm}$ Ship's Round of Beam (Main Dk) = nil Difference (Sh. Dk.) 0.330 Restricted to 332 (1-0.0055) 332 mm Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S}{L} \right) = 414$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S _i)	Height	Height Correction	Effective Length (E)
Poop enclosed } ... See... " overhang } Sketch	27.282	27.282			27.282
R.Q.D. enclosed	-				
" overhang	-				
Bridge enclosed } ... See... " overhang aft } Sketch	88.766	88.766	3378		88.766
" overhang forward	-				
Fore enclosed	-				
" overhang	-				
Trunk aft	-				
" forward	-				
Tonnage opening aft	1300	650			650
" " forward	-				
Total	117.308	116.698			116.698

Standard Height of Superstructure **2243 mm**
 " " R.Q.D. -
 Deduction for complete superstructure **1041 mm**
 Percentage covered $\frac{S}{L} = 1.00$
 " " $\frac{S_i}{L} =$
 " " $\frac{E}{L} = .9965$
 Percentage from Table, Line A. **99.32%**
 (corrected for absence of fore-castle (if required))
 Percentage from Table, Line B.
 (corrected for absence of fore-castle (if required))
 Interpolation for bridge less than 2L (if required)
 Deduction = **9932 x 1041 : 1034 mm**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	1232	1		1232	+1135	760	1		1895
$\frac{1}{2}L$ from A.P.	547	4		2188	75	843	4		3372
$\frac{3}{4}L$ "	137	2		274	0	208	2		416
Amidships	0	4		0	0	0	4		0
$\frac{3}{4}L$ from F.P.	274	2		548	11	292	2		584
$\frac{1}{2}L$ "	1094	4		4376	453	1183	4		4732
F.P.	2463	1		2463	1524	2659	1		2659
Total				11081	+1135				13658

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{2577}{18} \times (.75 - .50) = -36 \text{ mm}$
 If limited on account of midship superstructure. **No.**

Mean actual sheer aft = **Excess.**
 Mean standard sheer aft = **Excess.**
 Mean actual sheer forward = **Excess.**
 Mean standard sheer forward = **Excess.**
 Length of enclosed superstructure forward of amidships = **0.50 L**
 " " aft of " = **0.50 L**

Actual ht. of Superstructure = 3378 mm
 Standard ht. of S.S. = 2243
 Excess = 1135 mm.

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 7.248 Summer freeboard = 493 Moulded draught (d) = 6.755 Keel allowance = Extreme draught = Deduction for Tropical freeboard and addition for = Winter freeboard = $\frac{d}{48}$ inches = 141 mm Addition for Winter North Atlantic Freeboard (if required) =	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta = 9198 \text{ m}^3$ Tons per inch immersion at summer load water line $T = 15.6 \text{ m}^3/\text{in}$ Deduction = $\frac{\Delta}{40 T}$ inches = 147 mm HYDROSTATIC CURVES FORWARDED.	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient 685.685 , 1699 $\frac{1.36}{1.36}$ Depth Correction Deduction for superstructures Sheer correction Round of Beam correction Correction for Thickness of Deck amidships Other corrections, scantlings, etc. Summer Freeboard = 493 mm
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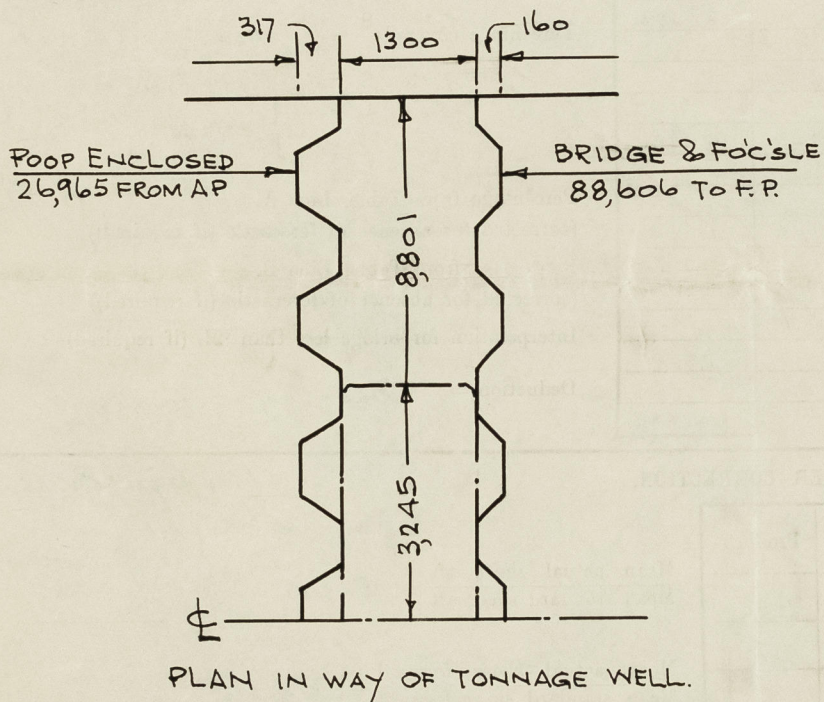
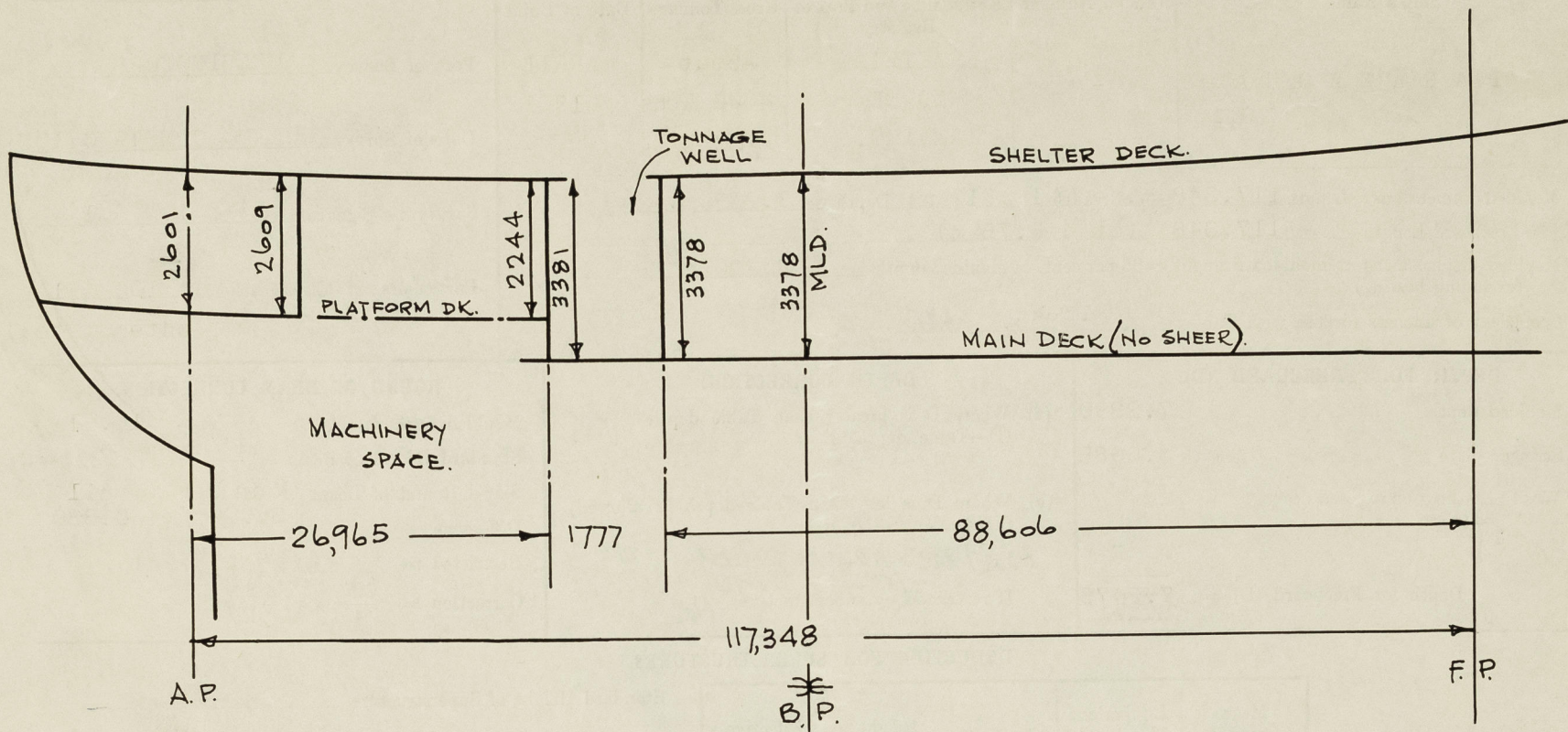
SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-

Tropical Fresh Water Line above Centre of Disc	..288 mm	Tropical Fresh Water Freeboard	..205 mm
Fresh Water Line	..147 mm	Fresh Water	..246 mm
Tropical Line	..141 mm	Tropical	..352 mm
Winter Line below	..141 mm	Winter	..634 mm
Winter North Atlantic Line	..	Winter North Atlantic	..

not required

Paranagua.

A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.



Section thru tonnage well?

$$\frac{B1-6}{B1} = \frac{8301 - 3245}{8301} = \frac{5056}{8301} = .609.$$

Trade of ship INTERNATIONAL

Names of sister ships "GUANABARA", "TODOS OS SANTOS", "TURIACU"

Builder's name and yard number VALMET Oy, No 203

Owners COMISSAO DE MARINHA MERCANTE

Fee £ : :

List of plans forwarded for reference. (See "Instructions to Surveyors, Part 4, 1950," paragraph 11.)

1. MIDSHIP SECTION
 2. PROFILE AND DECKS
 3. HYDROSTATIC CURVES.
- As approved
and modified



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