

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, ~~SAILING SHIP~~, TANKER.)

Ship's Name S. S. "MATADIAN" Official Number 175873 Nationality and Port of Registry British Gross Tonnage 6246 Date of Build 1948

Port of Survey Sunderland

Date of Survey During Construction

Surveyor's Signature A. Forsyth

Particulars of Classification +100A.1
Carrying Petroleum in Bulk

Moulded Dimensions: Length 410.78' Breadth 56.50' Depth 29.25'

Moulded displacement at moulded draught = 85 per cent. of moulded depth 12190 tons

Coefficient of fineness for use with Tables .739

DEPTH FOR FREEBOARD (D).		DEPTH CORRECTION.		ROUND OF BEAM CORRECTION.	
Moulded depth	29.25	(a) Where D is greater than Table depth (D-Table depth) R =		Moulded Breadth (B)	56.50'
Stringer plate	.65"	(29.30 - 27.38) 3 = + 5.76"		Standard Round of Beam = $\frac{B \times 12}{50}$	13.56"
Sheathing on exposed deck		(b) Where D is less than Table depth (if allowed) (Table depth-D) R =		Ship's Round of Beam	14.00"
$T \left(\frac{L-S}{L} \right) =$				Difference	.44"
Depth for Freeboard (D) =	29.30	If restricted by superstructures		Restricted to	
				Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S_1}{L} \right)$	$\frac{.44 \times 168}{4} = -1.02$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S _i)	Height	Height Correction	Effective Length (E)
Poop enclosed	150.95	150.95	7.50'	✓	150.95
" overhang	.83	.41	7.50'	✓	.41
R.Q.D. enclosed					
" overhang					
Bridge enclosed					
" overhang aft	2.90	2.18	7.50'	✓	2.18
" overhang forward					
Fore enclosed	103.67	103.67	7.50'	✓	103.67
" overhang					
Trunk aft		81.74	7.50'	✓	81.74
" forward					
Tonnage opening aft	4.58	2.86	7.50'	✓	2.86
" forward					
Total	262.93	341.81			341.81

Standard Height of Superstructure 7.50'

" " R.Q.D. ✓

Deduction for complete superstructure 42.00"

Percentage covered $\frac{S}{L} = \frac{624.00}{83.20} = 7.50$

" " $\frac{S_1}{L} = \frac{83.20}{83.20} = 1.00$

" " $\frac{E}{L} = \frac{83.20}{83.20} = 1.00$

Percentage from Table, Line A. Tanker 79.27
(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 = 42.00 × .7927 = -33.29"

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	51.078	1		51.08	51.00	51.00	1		51.00
1/4 L from A.P.	22.73	4		90.92	22.67	22.67	4		90.68
1/2 L	5.62	2		11.24	5.67	5.67	2		11.34
Amidships		4					4		
3/4 L from F.P.	11.235	2		22.47	14.00	14.00	2		28.00
3/8 L	45.46	4		181.84	56.00	56.00	4		224.00
F.P.	102.16	1		102.16	126.00	126.00	1		126.00
Total				459.71					531.02

Mean actual sheer aft = Deficient but greater than .75

Mean standard sheer aft = Deficient but greater than .75

Mean actual sheer forward = Excess

Mean standard sheer forward = Excess

Length of enclosed superstructure forward of amidships = Tanker

" " aft of " = Tanker

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{71.31}{18} \left(.75 - \frac{.3200}{.4300} \right) = -1.70"$

If limited on account of midship superstructure. ✓

If limited to maximum allowance of 1 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 $\frac{.739 + .68}{1.36} = 1.419/1.36$
Depth to Freeboard Deck = <u>29.30</u>	$\Delta = 12895$ Tons.	Depth Correction ... <u>5.76</u>
Summer freeboard = <u>3.23</u>	Tons per inch immersion at summer load water line	Deduction for superstructures ... <u>33.29</u>
Moulded draught (d) = <u>26.07</u>	T = <u>46.50</u>	Sheer correction ... <u>1.70</u>
Deduction for Tropical freeboard and addition for	Deduction = $\frac{\Delta}{40 T}$ inches	Round of Beam correction ... <u>.02</u>
Winter freeboard = $\frac{d}{4}$ inches = <u>6.52 = 6 1/2"</u>	= <u>6.93</u>	Correction for Thickness of Deck amidships ... <u>✓</u>
Addition for Winter North Atlantic Freeboard (if required) = <u>6.52 + 4.11 = 10.63 = 10 3/4"</u>	= <u>7"</u>	Other corrections, scantlings, etc. ... <u>✓</u>
		Summer Freeboard = <u>38.67"</u>

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

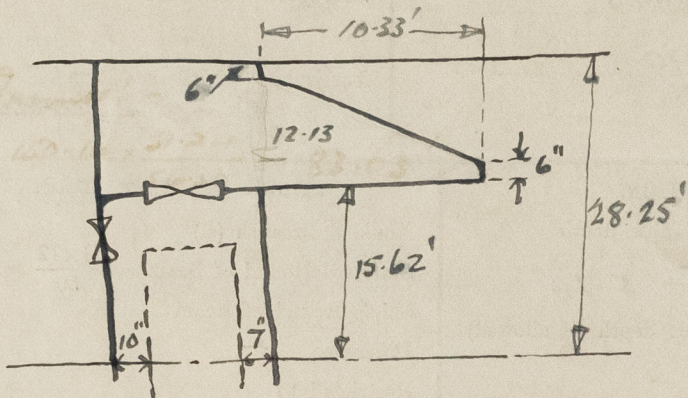
Tropical Fresh Water Line above Centre of Disc	13 1/2"	Tropical Fresh Water Freeboard	13 1/2"
Fresh Water Line	7"	Fresh Water	7"
Tropical Line	6 1/2"	Tropical	6 1/2"
Winter Line below	6 1/2"	Winter	6 1/2"
Winter North Atlantic Line	10 3/4"	Winter North Atlantic	10 3/4"

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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.

Load Displacement at 26'-0" extreme draught = 12820 tons
Tons per inch " " " " = 46.48

Keel .84"



Add :- $\frac{10.33 \times \frac{12.13}{2} + .6}{28.25} = \frac{2.31}{.59} = 2.90$ equiv.

Prop.	S.	S.
	150.95	150.95
	.83 x .5	.41
	4.58 1/2 diff.	2.86
	2.90 x .75	2.18

Trunk :- $\frac{150.16}{2.31} = 65.00$
 $147.85 \times \frac{31.24}{56.5} = 81.74$

Trade of ship Vegetable oil and general cargo

Names of sister ships ✓

Builder's name and yard number Sir James Laing & Sons, Ltd. Yard No 776

Owners United Africa Co., Ltd.

Fee £ will be charged on 1/2

MLD



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