

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 Freetown	Gross Tonnage 6246	Date of Build 1948	Port of Survey Sunderland
Moulded Dimensions: Length 410.78' Breadth 56.50' Depth 29.25' <i>6" centre of moulded stock.</i>				Date of Survey During Construction	
Moulded displacement at moulded draught = 85 per cent. of moulded depth 12190 tons				Surveyor's Signature <i>A. Forsyth</i>	
Coefficient of fineness for use with Tables .739				Particulars of Classification +100A.1. Carrying Petroleum in Bulk	

DEPTH FOR FREEBOARD (D). Moulded depth ... 29.25 Stringer plate ... (.65")05 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ ✓ Depth for Freeboard (D) = 29.30	DEPTH CORRECTION. (a) Where D is greater than Table depth (D-Table depth) R = (29.30-27.38)3 = +5.76" (b) Where D is less than Table depth (if allowed) (Table depth-D) R = ✓ If restricted by superstructures ✓	ROUND OF BEAM CORRECTION. Moulded Breadth (B) 56.50' Standard Round of Beam = $\frac{B \times 12}{50} =$ 13.56" Ship's Round of Beam = 14.00" Difference .44" Restricted to ✓ Correction = $\frac{\text{Diff.}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.44}{4} \times \left(1 - \frac{.168}{.739} \right) = .02" $
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DEDUCTION FOR SUPERSTRUCTURES.					
	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	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					
F'cle 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 $\frac{S}{L} =$ **64.00**
 $\frac{S_1}{L} =$ **83.20**
 $\frac{E}{L} =$ **83.20**
Percentage from Table, Line A. **Tanker 79.27**
(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 = **42.00 x .7927 = -33.29"**

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

Mean actual sheer aft **Deficient but greater than .76"**
Mean standard sheer aft **✓**
Mean actual sheer forward **Excess**
Mean standard sheer forward **✓**
Length of enclosed superstructure forward of amidships = **Tanker**
aft of **✓**
Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{71.31(1.75-.320)}{18} = -1.70"$
If limited to maximum allowance of 1 1/2 ins. per 100 ft. **✓**

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 29.30 Summer freeboard = 3.23 Moulded draught (d) = 26.07 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6.52 = 6 1/2" Addition for Winter North Atlantic Freeboard (if required) = 6.52 + 4.11 = 10.63 = 10 3/4"	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ 12895 Tons per inch immersion at summer load water line T = 46.50 Deduction = $\frac{\Delta}{40 T}$ inches = 6.93 = 7"	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{.739+.68}{1.36} = 1.419/1.36$ Depth Correction ... 5.76 Deduction for superstructures ... 33.29 Sheer correction ... 1.70 Round of Beam correction02 Correction for Thickness of Deck amidships ... ✓ Other corrections, scantlings, etc. ... ✓ Summer Freeboard = 38.67"
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-

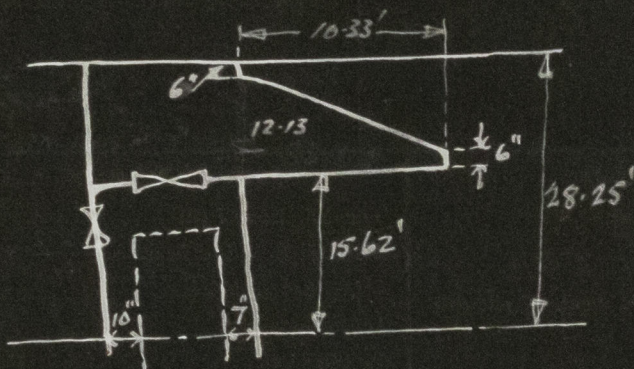
Tropical Fresh Water Line above Centre of Disc	13 1/2"	Tropical Fresh Water Freeboard	2 1/2"
Fresh Water Line	7"	Fresh Water	2 1/2"
Tropical Line	6 1/2"	Tropical	2 1/2"
Winter Line below	6 1/2"	Winter	2 1/2"
Winter North Atlantic Line	10 3/4"	Winter North Atlantic	2 1/2"

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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 :- $\frac{10.33 \times \frac{12.13}{2} + .5}{28.25} = \frac{2.31}{.59} = 2.90$ 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 :- $\frac{150.16}{2.51} = 59.82$
 $147.85 \times \frac{31.24}{56.5} = 81.74$

Trade of ship Vegetable oil and general cargo

Names of sister ships ✓

Builder's name and yard number Sir James Laing & Sons, Ltd. Yard N° 776

Owners United Africa Co., Ltd.

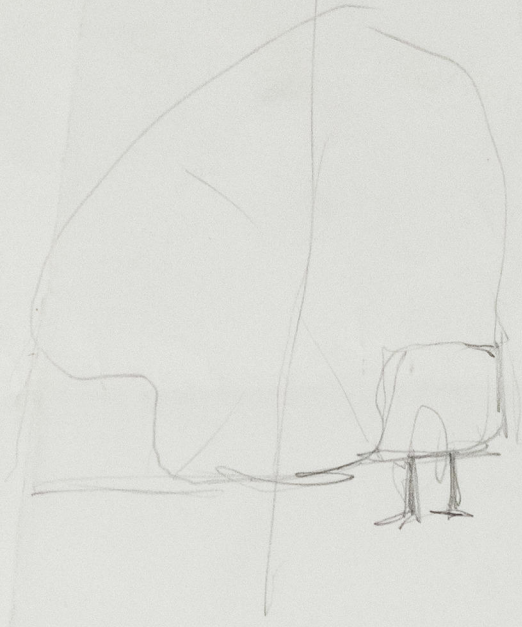
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