

JAN 5 1939

No 32551

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name British Genius	Official Number 167160	Nationality and Port of Registry British London	Gross Tonnage 8553	Date of Build 1939	Port of Survey Sunderland
Moulded Dimensions: Length 465'-5$\frac{3}{4}$" Breadth 61'-9" Depth 34'-0$\frac{1}{2}$"					Date of Survey Whilst building
Moulded displacement at moulded draught = 85 per cent. of moulded depth 18,276 tons					Surveyor's Signature Colin Bartlett
Coefficient of fineness for use with Tables .769					Particulars of Classification 100A1 "Carrying Petroleum in Bulk" "Permitted Framing at Bottom and at Deck"

Depth for Freeboard (D) 34'-11"	Depth correction. (a) Where D is greater than Table depth (D - Table depth) R = (34-11 - 31.03) 3' = + 9.24" (b) Where D is less than Table depth (if allowed) (Table depth - D) R = 3.08 If restricted by superstructures ✓	Round of Beam correction. Moulded Breadth (B) 61'-9" Standard Round of Beam = $\frac{B \times 12}{50} = 14.82$ Ship's Round of Beam = 15.2 Difference = .68 excess Restricted to ✓ Correction = $\frac{\text{Diff}^2}{4} \times (1 - \frac{S_1}{L}) = \frac{.68^2}{4} \times .5545 = -.09$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	104.27	104.27	8'-0"	✓	104.27
.. overhang ...	3.50	1.75	+2' leak		1.75
R.Q.D. enclosed ...	-	-	-		-
.. overhang ...	-	-	-		-
Bridge enclosed ...	37.0	37.00	8'-0"	✓	37.00
.. overhang aft ...	3.0	1.25	+2' leak		1.25
.. overhang forward ...	3.5	1.75			1.75
Fore enclosed Equiv.	57.74	57.74	8'-0"	✓	57.74
.. overhang Equiv.	2.44	1.22	+2' leak		1.22
Trunk aft ...	-	-	-		-
.. forward ...	-	-	-		-
Tonnage opening aft ...	-	-	-		-
.. forward ...	-	-	-		-
Total ...	211.45	205.98			205.98

Standard Height of Superstructure **7.5'**" " R.Q.D. **✓**Deduction for complete superstructure **42.80"**Percentage covered $\frac{S}{L} = 45.43$ ✓" $\frac{S_1}{L} = 44.25$ ✓" $\frac{E}{L} = 44.25$ ✓Percentage from Table, Line **TANKER** **35.25** ✓

(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 x .3525 = 14.80"** ✓

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	56.55	1	✓	56.55	38"	445.60	1	✓	45.00
1/4 L from A.P. ...	25.16	4	✓	100.64	19.875	19.875	4	✓	79.50
1/2 L " ...	6.22	2	✓	12.44	4.875	4.875	2	✓	9.75
Amidships ...	✓	4	✓	✓	✓	✓	4	✓	✓
3/4 L from F.P. ...	12.44	2	✓	24.88	12.50	12.50	2	✓	25.00
1/4 L " ...	50.32	4	✓	201.28	50.25	50.25	4	✓	201.00
F.P. ...	113.10	1	✓	113.10	113.00	113.00	1	✓	113.00
Total ...				508.89					473.25

Mean actual sheer aft = **Deficient.**Mean standard sheer aft = **Deficient.**Length of enclosed superstructure forward of amidships = **Tanker.**" aft of " = **✓**

Fore Sheer

Stations

12.44 3 37.32

50.32 3 150.96

113.10 1 113.10

301.32

If limited to maximum allowance of 1 1/2 ins. per 100 ft. ✓

Correction = $\frac{\text{Difference between sums of products}}{18} = \frac{35.64}{18} = 1.98$

If limited on account of midship superstructure. ✓

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **34'-11"**Summer freeboard = **6'-6 1/4"**Moulded draught (d) = **27'-4 1/4"**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = **6.87 = 6 3/4"**Addition for Winter North Atlantic Freeboard (if required) = **6.84 + 4.65 = 11.49 = 11 1/2"**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 17,293$

Tons per inch immersion at summer load water line

T = **59.38**Deduction = $\frac{\Delta}{40T}$ inches= **7.28**= **7 1/4"**

TABULAR FREEBOARD corrected for Plank Deck (if required)

Correction for coefficient

 $\frac{764 + .68}{1.36} = \frac{1.449}{1.36}$

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

79.07 ✓
84.24 ✓+ -
9.24 -
- 14.801.04 -
- .09

10.28 14.89 - 4.61 ✓

Summer Freeboard = **79.63**SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Water~~, Steel, Deck: -

Tropical Fresh Water Line above Centre of Disc ...

Fresh Water Line " " ...

Tropical Line " " ...

Winter Line below " " ...

Winter North Atlantic Line " " ...

Tropical Fresh Water Freeboard ...

Fresh Water " " ...

Tropical " " ...

Winter " " ...

Winter North Atlantic " " ...

6'-7 3/4" ✓

5'-5 3/4" ✓

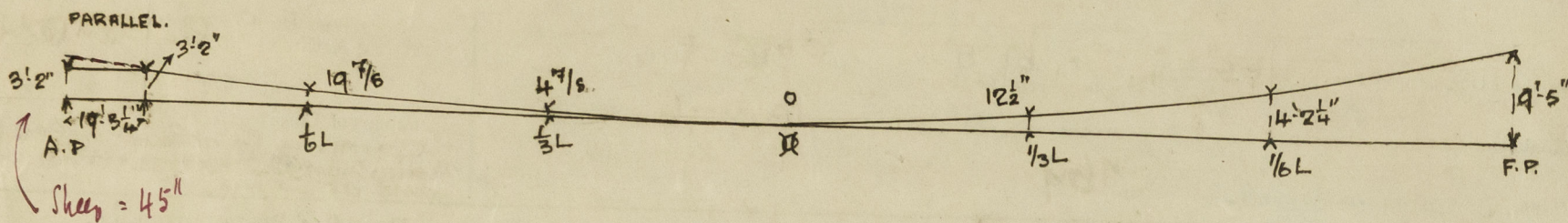
6'-0 1/2" ✓

6'-1" ✓

7'-2 1/2" ✓

4'-7 1/4" ✓

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.



Forecastle.

$$\begin{aligned}
 13.25' \times 15.83' &= 209.43 \checkmark \\
 12.25' \times 9.50' &= 116.39 \checkmark \\
 5.41' \times 3.50' &= 18.97 \checkmark \\
 \hline
 345.09 / 55.5 &= 6.22 \checkmark \\
 \text{Equip enclosure length} &= 57.94 \checkmark
 \end{aligned}$$

$$\begin{aligned}
 \text{Recess in deck } 13.25' \times 15.83' &= 209.43 \checkmark \\
 209.43 & \\
 \hline
 55.5 & \\
 \hline
 3.78 & \\
 63.96 & \\
 \hline
 60.18 & \\
 59.94 & \\
 \hline
 \text{Equip overhang} &= 2.44 \checkmark
 \end{aligned}$$

Trade of ship tanker

Names of sister ships _____

Builder's name and yard number Messrs W. Doreford & Sons G^r No 644.

Owners British Tanker Co G^{rs}

Fee £ 19 . 0 . 0

Will be charged on completion.



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Foundation