

~~35044~~
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25 MAR 1941

Rpt. C.11 (Comp.).

OWNERS' C.11 ISSUED

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.
(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build
"BRITISH LIBERTY"	183009	BRITISH LONDON.	8589	1949
Moulded Dimensions: Length <u>463.46'</u> Breadth <u>61.75'</u> Depth <u>34.08'</u> <u>To centre of Rudder stock.</u>				
Moulded displacement at moulded draught = 85 per cent. of moulded depth			18231	tons
Coefficient of fineness for use with Tables			0.7696	770

Port of Survey	Sunderland
Date of Survey	During Construction
Surveyor's Signature	Noel F.H. Duncan
Particulars of Classification	+100A1
Carrying Petroleum in Bulk.	

DEPTH FOR FREEBOARD (D).		DEPTH CORRECTION.		ROUND OF BEAM CORRECTION.	
Moulded depth	... 34.08	(a) Where D is greater than Table depth		Moulded Breadth (B)	61.75 ✓
Stringer plate	... 3/4" ✓ .06	(D - Table depth) R =		Standard Round of Beam = $\frac{B \times 12}{50}$	$= 14.82$
Sheathing on exposed deck	✓	3.25		Ship's Round of Beam	$= 15\frac{1}{2}$ ✓
$T \left(\frac{L-S}{L} \right) =$	✓	(b) Where D is less than Table depth (if allowed)		Difference	+ 0.68
Depth for Freeboard (D) =	34.14	(Table depth - D) R = ✓		Restricted to	
		If restricted by superstructures ✓		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right)$	$= \frac{0.68}{4} \times .5774 = -.10$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed <i>Equiv.</i> ...	94.75 98.08	98.08	8'0"	✓	98.08
" overhang	4.5	0.58			0.58
R.Q.D. enclosed	1.17				
" overhang					
Bridge enclosed <i>Equiv.</i> ...	40.0 42.67	42.67	8'0"	✓	42.67
" overhang aft	3.5	2.63			2.63
" overhang forward ...	3.5	0.41			0.41
F'cle enclosed <i>Equiv.</i> ...	43.46 49.59	49.59	8'0"	✓	49.59
" overhang	1.90	1.89			1.89
Trunk aft					
" forward					
Tonnage opening aft ...					
" " forward...					
Total	197.74	195.85			195.85

Standard Height of Superstructure 7.50 ✓
 " " R.Q.D. ✓
 Deduction for complete superstructure 42.00
 Percentage covered $\frac{S}{L} = 42.67$ ✓
 " " $\frac{S_1}{L} = \left. \begin{array}{l} \\ \\ \end{array} \right\} 42.26$ ✓
 " " $\frac{E}{L} =$
 Percentage from Table, Line A: ~~Tanker~~ 33.26 ✓
 (~~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 = $42.00 \times .3326 = 13.97$ ✓

SHEER CORRECTION.

Station	Standard Ordnate	S M	Product	Actual Ordnate	Effective Ordnate	S M	Product
A.P. ...	56.35	1	56.35	56	62.0	1	56.35
$\frac{1}{8}$ L from A.P. ...	25.075	4	100.30	25	25.0	4	100.30
$\frac{3}{8}$ L " ...	6.20	2	12.40	6.25	6.25	2	12.40
Amidships ...	—	4	—	0		4	
$\frac{3}{8}$ L from F.P. ...	12.395	2	24.79	12.25	12.25	2	24.50
$\frac{1}{8}$ L " ...	50.15	4	200.60	50.25	50.25	4	201.00
F.P. ...	112.69	1	112.69	111.25	111.25	1	111.25
Total ...			507.13				505.80

$$\frac{\text{Mean actual sheer aft}}{\text{Mean standard sheer aft}} = 71$$
$$\frac{\text{Mean actual sheer forward}}{\text{Mean standard sheer forward}} = .995$$

$\frac{\text{Length of enclosed superstructure}}{L}$ forward of amidships = } Taper

Shore found

Std.			Act.		
112.69	1	112.69	112.25	1	111.25
80.15	3	150.45	50.25	3	150.75
12.395	3	37.185	12.25	3	36.75
		<u>500.325</u>			<u>298.75</u>

$(.22) = +.04"$

$\frac{298.75}{500.325} = .995$

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{1.33}{18} (.75 - \frac{2.133}{5367}) = +.04''$ 300-325 270-75 800
 If limited on account of midship superstructure. ✓ If limited to maximum allowance of 1½ ins. per 100 ft. ✓

Deduction for Tropical Freeboard.		Deduction for Fresh Water.		TABULAR FREEBOARD <small>corrected for Flush Deck (if required)</small>																									
Addition for Winter and Winter North Atlantic Freeboard.		Displacement in salt water at summer load water line		Correction for coefficient																									
Depth to Freeboard Deck = <u>34.14</u> Ft.		$\Delta = 17312$		$\frac{7704.68}{1.36} = \frac{1.45}{1.36}$																									
Summer freeboard = <u>6.62</u>		Tons per inch immersion at summer load water line		<table border="1"> <thead> <tr> <th></th><th>+</th><th>-</th></tr> </thead> <tbody> <tr> <td>Depth Correction</td><td>9.75</td><td>-</td></tr> <tr> <td>Deduction for superstructures</td><td>-</td><td>13.97</td></tr> <tr> <td>Sheer correction</td><td>.04</td><td>-</td></tr> <tr> <td>Round of Beam correction</td><td>-</td><td>.10</td></tr> <tr> <td>Correction for Thickness of Deck amidships ...</td><td>-</td><td>-</td></tr> <tr> <td>Other corrections, scantlings, etc.</td><td>-</td><td>-</td></tr> <tr> <td></td><td>9.79</td><td>14.07</td></tr> </tbody> </table>			+	-	Depth Correction	9.75	-	Deduction for superstructures	-	13.97	Sheer correction04	-	Round of Beam correction	-	.10	Correction for Thickness of Deck amidships ...	-	-	Other corrections, scantlings, etc.	-	-		9.79	14.07
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Moulded draught (d) = <u>27.52</u>		T = <u>58.1</u>		<div style="text-align: right;"> <p>78.57</p> <p>83.77</p> <p>AR</p> <p>30.3.1</p> </div>																									
Deduction for Tropical freeboard and addition for		Deduction = $\frac{\Delta}{40 T}$ inches		<div style="text-align: right;"> <p>4.28</p> <p>79.49</p> </div>																									
Winter freeboard = $\frac{d}{4}$ inches = <u>6.88 = 7"</u>		= <u>7.45</u>																											
Addition for Winter North Atlantic Freeboard (if required) = <u>6.88 + 4.63 = 11.51 = 11 1/2"</u>		= <u>7 1/2"</u>																											

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

Tropical Fresh Water Line above Centre of Disc		14 1/2"	Tropical Fresh Water Freeboard	5' - 5 1/2"
Fresh Water Line	" "	7 1/2"	Fresh Water	6' - 0"
Tropical Line	" "	7"	Tropical	6' - 0 1/2"
Winter Line	below	7"	Winter	7' - 2 1/2"
Winter North Atlantic Line	" "	11 1/2"	Winter North Atlantic	7' - 7 1/2"

British Liberty.

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.

Displacement Extreme at Summer Load Draft = 17,312 Tons.

Tons per inch = 58.1

Kel = 1"

Stringer = $\frac{3}{4}$ "

Prop.

Equival. length = 94.75'

$\frac{2}{3} \times 5 = \frac{3.33}{98.08}$

Offset 4.50 - 3.33 = 1.17'

Forecastle

Forward of deck line:-

Intact length = 29.96'

Sidehouses = $\frac{23.28 + 19.80}{2} = 21.29$

$\frac{18.29 \times 13.5}{21.29} = 11.60'$

Offset 13.50 - 11.60 = 1.90' = 3.00'

S. col. $\times .995 = 1.89$

Aft of deck line

Sidehouses $\frac{26.06 + 23.28}{2} = 24.67$

$\frac{13.5 \times 14.67}{24.67} = 8.03$

$\frac{49.59}{49.59} = \text{equivalent length}$

Bridge

Equival. length = 40.00'

$\frac{2}{3} \times 4.0 = \frac{2.67}{42.67}$

Offset 3.50 - 2.67 = 0.83'

Trade of ship Tanker

Names of sister ships ✓

Builder's name and yard number Harland & Wolff Ltd 765

Owners British Tanker Co Ltd.

Fee £ will be charged on 1st



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