

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name "BRITISH DUKE"	Official Number 181834	Nationality and Port of Registry British London	Gross Tonnage 8562	Date of Build 1948-	Port of Survey Liverpool
Moulded Dimensions: Length 453.46 Breadth 61.75 Depth 34.08				Date of Survey During construction	Surveyor's Signature A.S. Jackson for self and J.S. Fathin
Moulded displacement at moulded draught = 85 per cent. of moulded depth 18303 tons				Particulars of Classification 100A1-	
Extreme Displacement and tons per inch 27.0" - 16,928 tons, 58.0 tons per inch.					
Coefficient of fineness for use with Tables 0.774					
DEPTH FOR FREEBOARD (D).		DEPTH CORRECTION.		ROUND OF BEAM CORRECTION.	
Moulded depth (from ship) ...	34.02	(a) Where D is greater than Table depth (D - Table depth) R = (34.08 - 30.90) 3 = +9.54		Moulded Breadth (B)	61.75
Stringer plate ...	06	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Standard Round of Beam = $\frac{B \times 12}{50}$ =	14.82
Sheathing on exposed deck				Ship's Round of Beam	15.5
T $\left(\frac{L-S}{L}\right)$ =	Nil			Difference	0.68
Depth for Freeboard (D) =	34.08	If restricted by superstructures		Restricted to	
				Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L}\right)$	$\frac{.68}{4} \times 58.76 = -.10$

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 97.75	97.75	8.0	✓	97.75
„ overhang ... ✓	3.50	25	8.0	✓	25
R.Q.D. enclosed ... ✓	✓	✓	✓		
„ overhang <i>Equiv</i> ... ✓	43.53 43.53		✓		
Bridge enclosed ... ✓	40.53 43.53	43.53	8.0	✓	43.53
„ overhang aft ... ✓	3.50	2.62	8.0	✓	2.62
„ overhang forward <i>Sec. Arch</i> ... ✓	5.28	28	8.0	✓	28
F'cle enclosed <i>Equiv</i> ... ✓	44.99 44.99	44.99	8.0	✓	44.99
„ overhang ... ✓	1.76	1.68	✓		1.68
Trunk aft ... ✓	✓	✓	✓		
„ forward ... ✓	✓	✓	✓		
Tonnage opening aft ... ✓	✓	✓	✓		
„ „ forward ... ✓	✓	✓	✓		
Total ...	192.58	191.10			191.10

Standard Height of Superstructure 7.50 ✓

" " R.Q.D. ✓

Deduction for complete superstructure 42. ✓

Percentage covered $\frac{S}{L} = 41.55$ ✓

" " $\frac{S_1}{L} =$ } 41.24 ✓

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

Percentage from Table, Line A. *Tankers*
(corrected for absence of forecastle (if required)) 32.24 ✓

Percentage from Table, Line B. ✓
(corrected for absence of forecastle (if required)) ✓

Interpolation for bridge less than $\cdot 2L$ (if required) ✓

Deduction = $42.00 \times 32.24 = 13.54$ ✓

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	56.35	1	56.35	54.63	54.63	1	54.63
$\frac{1}{8}$ L from A.P. ...	25.07	4	100.28	23.75	23.75	4	95.00
$\frac{2}{8}$ L " ...	6.195	2	12.39	6.25	6.25	2	12.50
Amidships ...	—	4	—	—	—	4	—
$\frac{2}{8}$ L from F.P. ...	12.39	2	24.78	11.75	11.75	2	23.50
$\frac{1}{8}$ L " ...	50.14	4	200.56	46.0	46.00	4	184.00
F.P. ...	112.69	1	112.69	114.0	114.00	1	114.00
Total ...		✓	507.05			✓	483.63

$$\frac{\text{Mean actual sheer aft}}{\text{Mean standard sheer aft}} = \text{Deficient}$$

Length of enclosed superstructure
L forward of amidships = } Tanked. ✓
" " " aft of " = }

Show forward. Sta Act
 112.69 1 112.69 114.00 1 114.00
 50.14 3 150.42 46.00 3 138.00
 12.39 3 37.17 11.75 3 35.25
 2078) - - 287.25
300.28 300.28 = .957
 5422 = +.71 If limited to maximum allowance of 1½ ins. per 100 ft.

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right)$
 If limited on account of midship superstructure. ✓

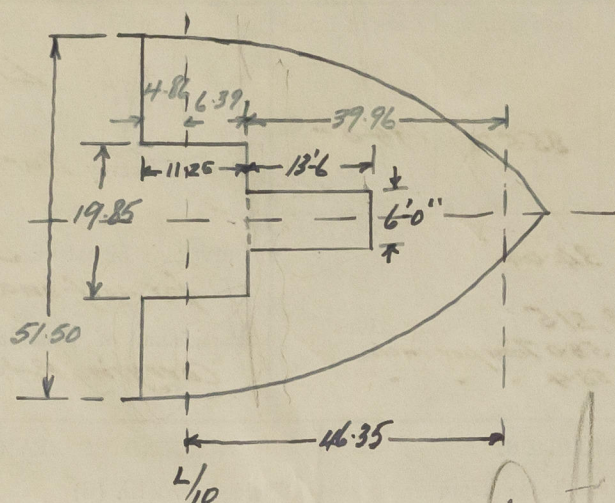
<p>Deduction for Tropical Freeboard.</p> <p>Addition for Winter and Winter North Atlantic Freeboard.</p> <p>Depth to Freeboard Deck = <u>34.08</u> Ft.</p> <p>Summer freeboard = <u>6.71</u></p> <p>Moulded draught (d) = <u>27.37</u></p> <p>Deduction for Tropical freeboard and addition for</p> <p>Winter freeboard = $\frac{d}{4}$ inches = $6.84 = 6\frac{3}{4}$</p> <p>Addition for Winter North Atlantic Freeboard (if required) = $6.84 + 4.63 = 11.47 = 11\frac{1}{2}$</p>	<p>Deduction for Fresh Water.</p> <p>Displacement in salt water at summer load water line $\Delta = 17294$</p> <p>Tons per inch immersion at summer load water line T = <u>58.21</u></p> <p>Deduction = $\frac{\Delta}{40 T}$ inches = 7.43</p> <p>= $7\frac{1}{2}$" ✓</p>	<p>TABULAR FREEBOARD corrected for Flush Deck (if required)</p> <p>Correction for coefficient $\frac{774 + .68}{1.36} = \frac{1454}{1.36}$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">+</th> <th style="text-align: center;">-</th> </tr> </thead> <tbody> <tr> <td>Depth Correction ✓</td> <td style="text-align: center;">9.54</td> <td style="text-align: center;">—</td> </tr> <tr> <td>Deduction for superstructures</td> <td style="text-align: center;">—</td> <td style="text-align: center;">13.54</td> </tr> <tr> <td>Sheer correction</td> <td style="text-align: center;">7.71</td> <td style="text-align: center;">—</td> </tr> <tr> <td>Round of Beam correction</td> <td style="text-align: center;">—</td> <td style="text-align: center;">10</td> </tr> <tr> <td>Correction for Thickness of Deck amidships ...</td> <td style="text-align: center;">—</td> <td style="text-align: center;">—</td> </tr> <tr> <td>Other corrections, scantlings, etc.</td> <td style="text-align: center;">—</td> <td style="text-align: center;">—</td> </tr> <tr> <td></td> <td style="text-align: center;">10.25</td> <td style="text-align: center;">13.64</td> </tr> </tbody> </table> <p style="text-align: right;">Summer Freeboard = <u>80.60</u></p>		+	-	Depth Correction ✓	9.54	—	Deduction for superstructures	—	13.54	Sheer correction	7.71	—	Round of Beam correction	—	10	Correction for Thickness of Deck amidships ...	—	—	Other corrections, scantlings, etc.	—	—		10.25	13.64
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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	...	14 ³ / ₄ "
Fresh Water Line	"	"	...	7 ¹ / ₂ "
Tropical Line	"	"	...	6 ³ / ₄ "
Winter Line	below	"	...	6 ⁵ / ₄ "
Winter North Atlantic Line	"	"	...	11 ¹ / ₂ "

Tropical Fresh Water Freeboard	
Fresh Water	"
Tropical	"
Winter	"
Winter North Atlantic	"

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.



Longcastle

Forward of $\frac{1}{10}$:-

Breadth at $\frac{1}{10}$ = 49.00
19.85
29.15

$$\begin{aligned} & - \frac{18.5 \times 6.0}{46} = - 1.76 = \text{overhang} \times .957 = 1.68 (S.) \\ & + \frac{6.39 \times 29.15}{49} = + 3.80 \\ & \hline & 42.00 \end{aligned}$$

Aft of $\frac{1}{10}$ = +2.99

$$\begin{aligned} & \frac{4.86 \times 31.65}{51.50} \nearrow 44.99 \text{ equivalent enclosed} \\ & \hline & 51.50 \end{aligned}$$

Bridge 40.58'

$$\begin{aligned} & \frac{2}{3} \times 4.42 + 2.95' \\ & \hline & 43.53' \end{aligned}$$

Poop = 94.75

$$\begin{aligned} & \frac{2}{3} \times 4.5 = + 3.00 \\ & \hline & 97.75 \end{aligned}$$

Trade of ship Oil Tanker

Names of sister ships "BRITISH BARON" Lir. Ptd. Rpt. N^o 6578. C.L. + Co's N^o 1177.

Builder's name and yard number Messrs. Cammell, Laird & Co's N^o 1178

Owners The British Tanker Co. Ltd.

Fee £ 20



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Foundation