

23 MAY 1947

Index No. 39081
(For London Office only.)

N^o 34690

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

Ship's Name "BRITISH FERN"	Official Number	Nationality and Port of Registry British London	Gross Tonnage	Date of Build 1947	Port of Survey Sunderland
Moulded Dimensions: Length 463.46' Breadth 61.75' Depth 34.08' <i>To centre of rudder stock</i>					Date of Survey During Construction
Moulded displacement at moulded draught = 85 per cent. of moulded depth 18,231 tons					Surveyor's Signature <i>[Signature]</i>
Coefficient of fineness for use with Tables 7696.77					Particulars of Classification +100A.1. <i>Carrying Petroleum in Bulk</i>

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... 34.08	(a) Where D is greater than Table depth (D-Table depth) R = (34.14 - 30.89) 3.25	Moulded Breadth (B) 61.75'
Stringer plate06	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = ✓	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{741}{50} = \mathbf{14.82''}$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures ✓	Ship's Round of Beam = 15.50''
Depth for Freeboard (D) = 34.14		Difference + .68
		Restricted to
		Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{.68 \times .5828}{4} = \mathbf{.10''}$

DEDUCTION FOR SUPERSTRUCTURES.						Standard Height of Superstructure 7.5'
	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	" " R.Q.D. ✓
Poop enclosed	96.79	96.79	8.0'	✓	96.79	Deduction for complete superstructure 42''
" overhang	1.33	.66			.66	Percentage covered $\frac{S}{L} = \frac{42.14}{L} = \mathbf{42.14}$
R.Q.D. enclosed						" " $\frac{S_1}{L} = \frac{41.72}{L} = \mathbf{41.72}$
" overhang						" " $\frac{E}{L} = \mathbf{41.72}$
Bridge enclosed	42.67	42.67	8.0'	✓	42.67	Percentage from Table, Line A Tanker 32.72
" overhang aft	3.50	2.63			2.63	(corrected for absence of forecastle (if required))
" overhang forward	.43	.42			.42	Percentage from Table, Line B.
F'cle enclosed	50.18	50.16	8.0'	✓	50.16	(corrected for absence of forecastle (if required))
" overhang						Interpolation for bridge less than .2L (if required)
Trunk aft						Deduction = 4.2 x .3272 = 13.74''
" forward						
Tonnage opening aft						
" " forward						
Total	195.30	193.33			193.33	

SHEER CORRECTION.								Mean actual sheer aft = Deficient		
Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	Mean standard sheer aft
A.P.	56.35	1		56.35	56.0	56.00	1		56.00	
1/4 L from A.P.	25.075	4		100.30	25.0	25.00	4		100.00	Mean actual sheer forward = Deficient
1/2 L	6.195	2		12.39	6.25	6.25	2		12.50	Mean standard sheer forward
Amidships		4					4			
3/4 L from F.P.	12.39	2		24.78	12.125	12.125	2		48.25	Length of enclosed superstructure forward of amidships = not applicable
1/4 L	50.15	4		200.60	50.25	50.25	4		201.00	" " aft of " = not applicable
F.P.	112.69	1		112.69	111.25	111.25	1		111.25	
Total				507.11					505.00	
Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{2.11}{18} (.75 - .2107) = \mathbf{+.06''}$										If limited to maximum allowance of 1 1/2 ins. per 100 ft. ✓
If limited on account of midship superstructure. ✓										

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)	78.57
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line $\Delta = \mathbf{17300}$	Correction for coefficient $\frac{.774 + .68}{1.46} = \mathbf{1.45}$	83.77
Depth to Freeboard Deck = 34.14 Ft.	Tons per inch immersion at summer load water line $T = \mathbf{58.30}$	Depth Correction ... 9.75	
Summer freeboard = 6.64	Deduction = $\frac{\Delta}{40 T} \text{ inches} = \mathbf{7.42}$	Deduction for superstructures ... 13.74	82.8
Moulded draught (d) = 27.50		Sheer correction06	23.54
Deduction for Tropical freeboard and addition for		Round of Beam correction10	
Winter freeboard = $\frac{d}{4} \text{ inches} = \mathbf{6.875 = 6 \frac{3}{4}}$		Correction for Thickness of Deck amidships ...	
Addition for Winter North Atlantic Freeboard (if required) = 6.87 + 4.63 = 11.50 = 11 1/2		Other corrections, scantlings, etc. ...	
		9.81 13.84 - 4.03	
		Summer Freeboard = 79.74	

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

Tropical Fresh Water Line above Centre of Disc	...	14 1/4"	Tropical Fresh Water Freeboard	...	5 1/2"
Fresh Water Line	"	7 1/2"	Fresh Water	"	6 1/4"
Tropical Line	"	6 3/4"	Tropical	"	7 1/4"
Winter Line below	"	6 3/4"	Winter	"	7 1/4"
Winter North Atlantic Line	"	11 1/2"	Winter North Atlantic	"	7 1/4"

British Fern.

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 Draught = 17,298 tons
Tons per inch " " " " = 58.15 tons

Equivalent Poop

Length at CR 98.375
" " side 93.625
 $4.75 \times \frac{2}{3} = 3.17$
93.62
Equiv. enclosed = 96.79'
Equiv O'h 4.5 - 3.17 = 1.33'

Equivalent Bridge:-

Length at centre = 44.0
" " side = 40.0
 $4.0 \times \frac{2}{3} = 2.67$
40.00
Equiv enclosed = 42.67'
Equiv for O'h = 3.5 - 2.67 = .83'

Equivalent Forecastle:-

L/10 = 46.35'

Sheer forward:-

Standard	Actual
12.39 3 37.17	12.125 3 36.37
50.15 3 150.45	50.25 3 150.75
112.63 1 112.69	111.25 1 111.25
300.31	298.37
$\frac{298.37}{300.31} = .993$	

Enclosed length forward of passage = 24.21'
Enclosed at sides of passage
 $\frac{22.96 + 17.14}{2} = 20.05$
- 3.00
 $18 \times 17.05 = 15.31'$
 $\frac{20.05}{2.67} = 2.67'$
Passage (18.0 - 15.31) x .993 = 2.67'

Sidehouses

$\frac{25.87 + 22.96}{2} = 24.42$
- 10.00
 $13.5 \times 14.42 = 7.97'$
24.42
Equivalent enclosed L = 50.16'

Equivalent covered length:-

= 24.21 + 18.0 + 7.97 = 50.18'

Trade of ship Tanker
Names of sister ships M.V. "BRITISH PRINCESS" (Yard N° 768) & M.V. "BRITISH HOLLY" (Yard N° 770)
Builder's name and yard number Sir James Laing & Sons, Ltd. Yard N° 771.
Owners British Tanker Co., Ltd.

Fee £ 19.
Will be charged on F.E.



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Foundation