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

Ship's Name	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build
" EMPIRE OBERON "	167139	BRITISH. HULL.	242.	1943.

Port of Survey Hull

Date of Survey During construction

Surveyor's Signature J Macleod

Moulded Dimensions : Length 105·0' Breadth 26·5' Depth 13·5'

Moulded displacement at moulded draught = 85 per cent. of moulded depth 523 tons
T.P.I = 5·35

Coefficient of fineness for use with Tables ·68 (·573 Actual)

Particulars of Classification + 100 A1.
"FOR TOWING SERVICES"
(CONTEMPLATED)

Depth for Freeboard (D).

Moulded depth ... ... 13·5'

Stringer plate ... ... ·30" ·03

Sheathing on exposed deck $T\left(\dfrac{L-S}{L}\right) =$

Depth for Freeboard (D) = 13·53

Depth correction.

(a) Where D is greater than Table depth
(D—Table depth) R =
$\dfrac{(13.53 - 7.00)\ .808}{6.53} = +5.28$

(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) 26·5'

Standard Round of Beam = $\dfrac{B \times 12}{50}$ = 6·36

Ship's Round of Beam = 7½"

Difference 1·14"

Restricted to

Correction = $\dfrac{Diff^n}{4} \times \left(1 - \dfrac{S_1}{L}\right)$ = $\dfrac{1.14}{4}$ = ·28"

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S₁)	Height	Height Correction	Effective Length (E)
Poop enclosed					
" overhang					
R.Q.D. enclosed ...					
" overhang					
Bridge enclosed ...					
" overhang aft					
" overhang forward					
F'cle enclosed					
" overhang ...					
Trunk aft					
" forward ...					
Tonnage opening aft ...					
" " forward					
Total ...					

Standard Height of Superstructure

" " R.Q.D.

Deduction for complete superstructure

Percentage covered $\dfrac{S}{L}$ =

$\dfrac{S_1}{L}$ = NIL

$\dfrac{E}{L}$ =

Percentage from Table, Line A.
(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 = NIL

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P.	20·50	1	20·50	18"	18·00	1	18·00
⅙L from A.P. ...	9·12	4	36·48	8	8·00	4	32·00
⅔L " ...	2·255	2	4·51	1¾	1·75	2	3·50
Amidships ...	-	4	-	0	-	4	-
⅔L from F.P. ...	4·51	2	9·02	9¾	9·75	2	19·50
⅙L " ...	18·24	4	72·96	35½	35·50	4	142·00
F.P.	41·00	1	41·00	81½"	81·50	1	81·50
Total ...			184·47				296·50

$\dfrac{\text{Mean actual sheer aft}}{\text{Mean standard sheer aft}} = $ Deficient but > ·75 standard.

$\dfrac{\text{Mean actual sheer forward}}{\text{Mean standard sheer forward}} = $ Excess

$\dfrac{\text{Length of enclosed superstructure forward of amidships}}{L} = $
" aft of " = $\Big\}$ NIL

Correction = $\dfrac{\text{Difference between sums of products}}{18}\left(.75 - \dfrac{S}{2L}\right) = \dfrac{112.03}{18} \times .75 = -4.67"$

If limited on account of midship superstructure. No Flush Deck.

If limited to maximum allowance of 1½ ins. per 100 ft. - 1·58"

Deduction for Tropical Freeboard.
Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 13·53 Ft.

Summer freeboard = 1·29

Moulded draught (d) = 12·24

Deduction for Tropical freeboard and addition for Winter freeboard = $\dfrac{d}{4}$ inches = 3·06 = 3"

Addition for Winter North Atlantic Freeboard (if required) = 5"

Deduction for Fresh Water.

Displacement in salt water at summer load water line Δ = 585

Tons per inch immersion at summer load water line T = 5·47

Deduction = $\dfrac{\Delta}{40\ T}$ inches = 2·67 2¾"

MLD DISP.	EXT. DISP.	T.P.I.
12'6	595	5·50
11'6	529¼	5·35
9'6	407	4·90

TABULAR FREEBOARD corrected for Flush Deck (if required) 12·08

Correction for coefficient NIL

	+	-	
			10·50 + 1·58
			12·08
			12·08
Depth Correction	5·28	-	5·28
Deduction for superstructures	-		23·12·42
Sheer correction	-	1·58	
Round of Beam correction... ...	-	·28	
Correction for Thickness of Deck amidships ...	-		
Other corrections, scantlings, etc.	-		
	5·28	1·86	+ 3·42

Summer Freeboard = 15·50"

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Steel~~, Deck : — 1 - 3½"

Tropical Fresh Water Line above Centre of Disc ...	5¾"	Tropical Fresh Water Freeboard ...	0 - 9¾"
Fresh Water Line " "	2¾"	Fresh Water	1 - 0¾"
Tropical Line " "	3"	Tropical	1 - 0½"
Winter Line below "	3"	Winter	1 - 6½"
Winter North Atlantic Line " "	5"	Winter North Atlantic	1 - 8½"

29 DEC 1942

10m 3,37. T.

002568-002576-0180

23·1·43

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.

Trade of ship   FOR TOWING SERVICES.

Names of sister ships   "EMPIRE TITAN" - "EMPIRE LINDEN"

Builder's name and yard number   H Scarr Ltd - Yard Nº 424.

Owners   Ministry of War Transport.

Fee £   To be charged with first survey.