

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

N^o 34468

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name " HESPERIDES " EX EMPIRE LONGSTONE	Official Number 180929	Nationality and Port of Registry BRITISH, SUNDERLAND	Gross Tonnage 5125	Date of Build 1946	Port of Survey Sunderland
Moulded Dimensions: Length 425.79' Breadth 56.0' Depth 27.3021' TO & OF RUDDER STOCK				Date of Survey While building	Surveyor's Signature Rm Wilson
Moulded displacement at moulded draught = 85 per cent. of moulded depth 11769 tons				Particulars of Classification 100 A.1. with freeboard (contemplated)	
Coefficient of fineness for use with Tables 747 744					

Depth for Freeboard (D). Moulded depth ... 27.3021' Stringer plate44"04" Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 27.34'	Depth correction. (a) Where D is greater than Table depth (D-Table depth) R = (b) Where D is less than Table depth (if allowed) (Table depth-D) R = (27.39 - 27.34) 3 - - 3.15" If restricted by superstructures	Round of Beam correction. Moulded Breadth (B) 56.0' Standard Round of Beam = $\frac{B \times 12}{50} = 13.44"$ Ship's Round of Beam (see over) = 6" 6.11" Difference - 7.33" Restricted to Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{7.33}{4} \times .0066 = +.01"$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	32.29'	32.29'		✓	32.29'
" overhang ...	3.00'	1.50'			1.50'
R.Q.D. enclosed ...	✓				
" overhang ...	✓				
Bridge enclosed ...	✓				
" overhang aft ...	✓				
" overhang forward ...	✓				
F'cle enclosed ...	386.42'	386.42'	10.75	✓	386.42'
" overhang ...	✓				
Trunk aft ...	✓				
" forward ...	✓				
Tonnage opening aft ...	4.08'	2.79' = 1/2 DIFF			2.79'
" " forward ...	✓				
Total ...	425.79'	423.00'			423.00'

Standard Height of Superstructure 7.50' ✓
 " " R.Q.D. ✓
 Deduction for complete superstructure 42.00" ✓
 Percentage covered $\frac{S}{L} = 100\%$ ✓
 $\frac{S_1}{L} = 99.34$ ✓
 Percentage from Table, Line A.
 (corrected for absence of forecastle (if required)) 99.19 ✓
 Percentage from Table, Line B.
 (corrected for absence of forecastle (if required))
 Interpolation for bridge less than 2L (if required)
 Deduction = $42.00 \times 99.19 = -41.66"$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	52.58	1		52.58	10.75	49.75	1		49.75
1/2 L from A.P. ...	23.40	4		93.60	.125	22.14	4		88.56
2/2 L " ...	5.78	2		11.56	-	5.47	2		10.94
Amidships ...	-	4		-	-	-	4		-
3/2 L from F.P. ...	11.57	2		23.14	-	12.95	2		25.90
1/2 L " ...	46.80	4		187.20	5.75	44.75	4		179.00
F.P. ...	105.16	1		105.16	78.75	117.75	1		117.75
Total ...		✓		473.24	+ 39.00		✓		471.90

Mean actual sheer aft = Deficient but exceeds 75%
 Mean standard sheer aft
 Mean actual sheer forward = Excess
 Mean standard sheer forward
 Length of enclosed superstructure forward of amidships = } c.s.s.
 " " aft of " = }
 Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{1.34}{18} \times (.75 - .50) = +.02"$ ✓
 If limited on account of midship superstructure.
 If limited to maximum allowance of 1 1/2 ins. per 100 ft. ✓

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 27.34' Summer freeboard = 3.21' Moulded draught (d) = 24.13' Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6.03 = 6" Addition for Winter North Atlantic Freeboard (if required) = ✓	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta = 12352$ Tons per inch immersion at summer load water line $T = 47.85$ Deduction = $\frac{\Delta}{40 T}$ inches = 6.45" = 6 1/2" ✓	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{744 + .68}{1.36} = 546.98$ Depth Correction ... 3.15' Deduction for superstructures ... 41.66' Sheer correction02' Round of Beam correction01' Correction for Thickness of Deck amidships ... Other corrections, scantlings, etc. ... Summer Freeboard = 38.56'
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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 ... 12 1/2'	Tropical Fresh Water Freeboard ... 2' - 2"
Fresh Water Line " " ... 6 1/2'	Fresh Water " " ... 2' - 8"
Tropical Line " " ... 6'	Tropical " " ... 2' - 8 1/2"
Winter Line below " " ... 6'	Winter " " ... 3' - 8 1/2"
Winter North Atlantic Line " " ...	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.

Displacement at 24'-0" draught = 12250 tons

Tons per inch = 47.8 tons

$$\text{Equiv.}^t \text{ Camber} = \frac{10 \times 6 + \frac{18 \times 6}{2}}{28 \times \frac{2}{3}} = \frac{114}{28} \times \frac{3}{2} = 6.11''$$

Virtual Sheer aft

Tween deck height = 10'-9"

Standard height = 7'-6"

3'-3" = 39"

actual sheer aft

10.75
49.75"

Virtual Sheer fwd

78.75 + 39.00

117.75"

Trade of ship Ocean going

Names of sister ships This vessel is a pre-fabricated "D" type

Builder's name and yard number Shipbuilding Corporation Limited (Wear Branch) Sunderland Yard No. 9

Owners British South American Steam Navigation Company (Ex Ministry of Transport)

Fee £ 16
Will be charged on 7E report.



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