

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR ~~STEAMER, SAILING SHIP, TANKER.~~)

N. 34467

Ship's Name **ex SS. "EMPIRE" "NASEBY" "WAVE KNIGHT"** Official Number **180875** Nationality and Port of Registry **BRITISH LONDON** Gross Tonnage **8187** Date of Build **1946**

Port of Survey **Sunderland**

Date of Survey **During Construction**

Surveyor's Signature **J. B. Miller & D. S. Forryth**

Particulars of Classification **+ 100 A.1 Carrying Petroleum in Bulk Contemplated**

Moulded Dimensions: Length **465.96** Breadth **64.00** Depth **35.5**

Moulded displacement at moulded draught = 85 per cent. of moulded depth **17670** tons

Coefficient of fineness for use with Tables **.687**

DEPTH FOR FREEBOARD (D).	
Moulded depth	... 35.5
Stringer plate82 .07
Sheathing on exposed deck	
$T \left(\frac{L-S}{L} \right) =$	
Depth for Freeboard (D) =	35.57

DEPTH CORRECTION.	
(a) Where D is greater than Table depth (D-Table depth) R =	(35.57-31.07)3 = +13.50
(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)	64.00
Standard Round of Beam = $\frac{B \times 12}{50}$	15.36
Ship's Round of Beam	16
Difference	.64
Restricted to	
Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L}\right)$	$\frac{.64}{4} \times .5154 = -.08$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed EQUIV.	124.68	124.65	7.5'		124.65
" overhang					
R.Q.D. enclosed					
" overhang	.69				
Bridge enclosed EQUIV.	47.7	47.69	7.5'		47.69
" overhang aft					
" overhang forward	6				
F'cle enclosed EQUIV.	53.47	53.46	7.5'		53.46
" overhang SEE SKETCH					
Trunk aft					
" forward					
Tonnage opening aft					
" " forward					
Total	225.80	225.80			225.80

Standard Height of Superstructure	7.5 F.
" " R.Q.D.	
Deduction for complete superstructure	42"
Percentage covered $\frac{S}{L} =$	
" " $\frac{S_1}{L} =$	48.46
" " $\frac{E}{L} =$	
Percentage from Table, Line A.	39.46%
(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 = $42.00 \times .3946 =$	- 16.58

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	56.60	1		56.60	13'4"	13.25	1		13.25
$\frac{1}{4}$ L from A.P.	25.185	4		100.74	3"	3.00	4		12.00
$\frac{3}{8}$ L	6.225	2		12.45	0	-	2		-
Amidships	-	4		-	0	-	4		-
$\frac{3}{8}$ L from F.P.	12.45	2		24.90	0	-	2		-
$\frac{1}{4}$ L	50.37	4		201.48	10'2"	10.50	4		42.00
F.P.	113.19	1		113.19	84'4"	84.75	1		84.75
Total				509.36					152.00

Mean actual sheer aft =
Mean standard sheer aft =

Mean actual sheer forward =
Mean standard sheer forward =

Length of enclosed superstructure forward of amidships =

" " aft of " =

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{357.36 - 242.3}{18} = +10.08$$

If limited on account of midship superstructure.

If limited to maximum allowance of 1½ ins. per 100 ft.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 35.57

Summer freeboard = 7.21

Moulded draught (d) = 28.36

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 7.09 = 7

Addition for Winter North Atlantic Freeboard (if required) = 7.09 + 4.66 = 11.75 = 11¾

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 16530$

Tons per inch immersion at summer load water line

T = 56.54

Deduction = $\frac{\Delta}{40 T}$ inches

= 7.32

= 7¼

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.687 + .68}{1.36} = \frac{1.37}{1.36}$

	+	-
Depth Correction	13.50	-
Deduction for superstructures	-	16.58
Sheer correction	10.08	-
Round of Beam correction	-	.08
Correction for Thickness of Deck amidships	-	-
Other corrections, scantlings, etc.	-	-
	23.58	16.66

Summer Freeboard = 86.51

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

Tropical Fresh Water Line above Centre of Disc	14¼"	Tropical Fresh Water Freeboard	6 - 0¼"
Fresh Water Line	7¼"	Fresh Water	5 - 7¼"
Tropical Line	7"	Tropical	6 - 7½"
Winter Line below	7"	Winter	7 - 9½"
Winter North Atlantic Line	11¾"	Winter North Atlantic	5 - 2¼"

Wave Slight.

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 28'-6" draught = 16530 tons.

Tons per inch " " " = 56.54.

Decks
 $4 \times \frac{11+32}{64}$
 121.96.
 2.69.
124.65.

Bridge.
 $4 \times \frac{11+32}{64}$
 45.00
 2.69.
47.69.

Forecastle.
 18.00×13
 26.63
 62.25
 - 8.79.
53.46.

Trade of ship Tanker

Names of ^{SIMILAR} ~~other~~ ships S. S. "EMPIRE HERALD" Sld Rpt. N° 34389

Builder's name and yard number Sir James Laing & Sons, Ltd., Yard N° 764

Owners M. O. N. T. for R. F. A. Services.

Fee £ 19 0 0

(Will be charged on F.E.)



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Foundation