

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

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

Ship's Name "EARNER"	Official Number NONE 169327	Nationality and Port of Registry BRITISH.	Gross Tonnage 597	Date of Build 1943.	Port of Survey Hull.
Moulded Dimensions: Length 142'6" Breadth 33'0" Depth 16'0"					Date of Survey During construction
Moulded displacement at moulded draught = 85 per cent. of moulded depth 1010. tons					Surveyor's Signature J. M. Macleod
Coefficient of fineness for use with Tables .68 (.553 Actual) T.P.I. = 8.5					Particulars of Classification * 100 A-1. "FOR TOWING SERVICES". (CONTEMPLATED)

Depth for Freeboard (D).		Depth correction.		Round of Beam correction.	
Moulded depth	16'0"	(a) Where D is greater than Table depth (D - Table depth) R = 116.03 - 9.50 = 1.096 = +7.16"		Moulded Breadth (B)	33'0"
Stringer plate	.03	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Standard Round of Beam = $\frac{B \times 12}{50}$	7.92"
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	NONE			Ship's Round of Beam	9"
Depth for Freeboard (D) =	16'03"	If restricted by superstructures		Difference	1.08"
				Restricted to	
				Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right)$	$= \frac{1.08}{4} \times .6327 = -.17$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
F'cle enclosed ...	52.33 SEE SKETCH	52.33	7'0"	✓	52.33
" overhang ...	"				
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	52.33	52.33			52.33

Standard Height of Superstructure	6'0"
" R.Q.D.	✓
Deduction for complete superstructure	20.25
Percentage covered $\frac{S}{L} =$	
" $\frac{S_1}{L} =$	36.73
" $\frac{E}{L} =$	
Percentage from Table, Line A.	20.72
(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 = $20.25 \times .2072 =$	-4.20"

SHEER CORRECTION.

Sheers measured from a line parallel to the designed waterline.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	24.25	1	24.25	24.25	29.50	29.50	1	29.50	29.50
$\frac{1}{4}$ L from A.P. ...	10.79	4	43.16	12.33	12.33	12.33	4	49.32	49.32
$\frac{3}{4}$ L " ...	2.67	2	5.34	2.92	2.92	2.92	2	5.84	5.84
Amidships ...	-	4	-	ON PAGE 1.	-	-	4	-	-
$\frac{3}{4}$ L from F.P. ...	5.34	2	10.68	8.08	8.08	8.08	2	16.16	16.16
$\frac{1}{4}$ L " ...	21.58	4	86.32	29.67	29.67	29.67	4	118.68	118.68
F.P. ...	48.50	1	48.50	73.75	73.75	73.75	1	73.75	73.75
Total ...			218.25					293.25	

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 " =

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{75}{18} \times (1.75 - .1836) = -2.36"$
If limited on account of midship superstructure. Yes. Nil.If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. ✓

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **16.03** Ft.
Summer freeboard = **1.87**
Moulded draught (d) = **14.16**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = **3.54 = 3 $\frac{1}{2}$ "**

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 1078$

Tons per inch immersion at summer load water line

T = **8.69**Deduction = $\frac{\Delta}{40T}$ inches= $\frac{1078}{40 \times 8.69} = 3.10 = 3"$

MLO DRAFT. EXT. DISP. T.P.I.

14' 1 1/2" 1100 875

13' 1 1/2" 996 845

12' 1 1/2" 892 820

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient Nil.

Depth Correction ... 7.16

Deduction for superstructures ... 4.20

Sheer correction17

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ... 5.18

Summer Freeboard = **22.70**

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

Tropical Fresh Water Line above Centre of Disc ... 3"

Fresh Water Line " " ... 3"

Tropical Line " " ... Nil

Winter Line below " " ... Nil

Winter North Atlantic Line " " ... 2"

Tropical Fresh Water Freeboard ...

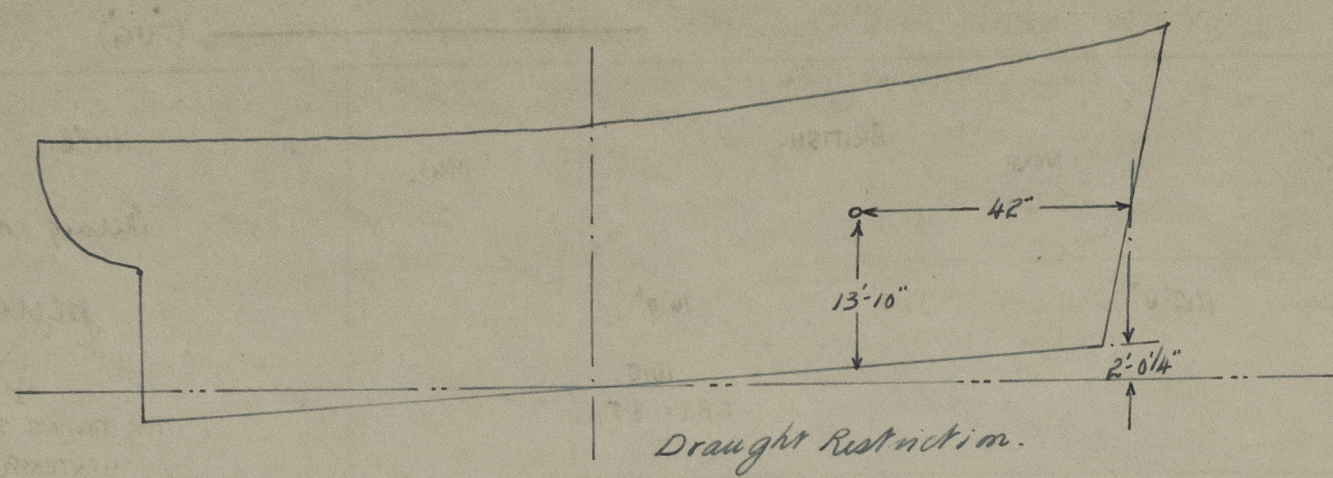
Fresh Water " " ...

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.



$$\begin{aligned} L &= 142.5 \\ \frac{L}{2} &= 71.25 \\ \frac{42.00}{(29.25/71.25) \times 2.02} &= 0.83 \\ &+ 13.83 \\ &= 14.66 \\ &- .50 \\ \hline &14.16 \end{aligned} \quad \text{Limited Draught.}$$

Trade of ship FOR TOWING SERVICES.

Names of sister ships "ASSIDUOUS" - "ANTIC".

Builder's name and yard number COCHRANE & SONS LTD; SELBY. YARD N° 1270.

Owners THE ADMIRALTY.

Fee £ TO BE CHARGED WITH FIRST ENTRY.

