

30 MAR 1948

Index No. 39557
(For London Office only).

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name "MINERVE" ex "Donner Lake"	Official Number	Nationality and Port of Registry French Le Havre (Contemplated)	Gross Tonnage 10448	Date of Build 1944	Port of Survey Seattle
Moulded Dimensions: Length 503' Breadth 68' Depth 39.25' <i>To centre of Roundhead.</i>					Date of Survey January, 1948
Moulded displacement at moulded draught = 85 per cent. of moulded depth 24350 tons					Surveyor's Signature <i>J. Todd</i>
Coefficient of fineness for use of Tables .747					Particulars of Classification 100 A 1 Carrying petroleum in bulk

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... 39.25	(a) Where D is greater than Table depth (D - Table depth) R = (39.34 - 33.53) 3 = +17.43"	Moulded Breadth (B) 68' Standard Round of Beam = $\frac{B \times 12}{50} =$ 16.32"
Stringer plate 1.1309	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = 5.81	Ship's Round of Beam = Equal 18".46
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures <input checked="" type="checkbox"/>	Difference See over + 2.14
Depth for Freeboard (D) = 39.34		Restricted to
		Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{2.14}{4} \times .5987 = -.32"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed <i>Equal</i>	109.87					Standard Height of Superstructure 7.50
Side Centre	107.5'	109.87	8.0'		109.87	" " R.Q.D. <input checked="" type="checkbox"/>
overhang ...	111.15'					Deduction for complete superstructure 42.00
R.Q.D. enclosed	=					Percentage covered $\frac{S}{L} =$ 40.20
overhang <i>Equal</i>	38.97					" " $\frac{S_1}{L} =$ 40.13
Side Centre	35.75'	38.97	8.0'		38.97	" " $\frac{E}{L} =$ 40.13
Bridge enclosed	40.00'					Percentage from Table, Line A. <i>Tanker</i> 31.13 (corrected for absence of forecastle (if required))
overhang aft	=					Percentage from Table, Line B. <input checked="" type="checkbox"/> (corrected for absence of forecastle (if required))
overhang forward	=					Interpolation for bridge less than 2L (if required) <input checked="" type="checkbox"/>
F'cle enclosed	52.63'	52.63	10.0'		52.63	Deduction = 42.00 x .3113 = 13.08"
overhang	.75'	.37			.37	
Trunk aft						
forward						
Tonnage opening aft						
forward						
Total	202.22	201.84			201.84	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	60.30	1		60.30	16.00	16.00	1		16.00	Mean actual sheer aft = <i>Deficient</i> Mean standard sheer aft
$\frac{1}{8}$ L from A.P.	26.83	4		107.32	2.27	2.27	4		9.08	Mean actual sheer forward = <i>Deficient</i> Mean standard sheer forward
$\frac{2}{8}$ L	6.63	2		13.26	-	-	2		-	Length of enclosed superstructure forward of amidships = <i>Tanked</i> aft of
Amidships	-	4		-	-	-	4		-	
$\frac{3}{8}$ L from F.P.	13.27	2		26.54	-	-	2		-	
$\frac{4}{8}$ L	53.67	4		214.68	5.44	5.44	4		21.76	
F.P.	120.60	1		120.60	18.00	18.00	1		18.00	
Total				542.70					64.84	

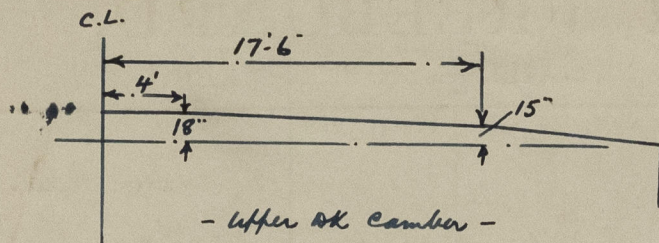
Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{477.86}{18} \left(\frac{75-2010}{5490} \right) = +14.58"$
If limited on account of midship superstructure. ☒ If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. ☒

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)	88.19
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line $\Delta =$ 21830	Correction for coefficient $\frac{.747 + .68}{1.36} = \frac{1.427}{1.36}$	92.54
Depth to Freeboard Deck = 39.34	Tons per inch immersion at summer load water line $T =$ 67.08	Depth Correction ... 17.43	
Summer freeboard = 9.23	Deduction = $\frac{\Delta}{40T}$ inches $=$ 8.4"	Deduction for superstructures ... 13.08	
Moulded draught (d) = 30.11	See Over	Sheer correction ... 14.58	
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 7.53" = 7.5"		Round of Beam correction32	
Addition for Winter North Atlantic Freeboard (if required) = 7.53 + 5.03 = 12.56" = 12.5"		Correction for Thickness of Deck amidships ... -	
		Other corrections, scantlings, etc. ... -	
		32.01 13.40 + 18.61	
		Summer Freeboard = 111.15	

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

Tropical Fresh Water Line above Centre of Disc ... 15.4" = 400.00	Tropical Fresh Water Freeboard ... 9.23" = 283.00
Fresh Water Line " " ... 8.4" = 210.00	Fresh Water " " ... 7.11" = 241.50
Tropical Line " " ... 7.5" = 190.00	Tropical " " ... 8.65" = 260.30
Winter Line below " " ... 7.5" = 190.00	Winter " " ... 8.74" = 262.30
Winter North Atlantic Line " " ... 12.5" = 317.00	Winter North Atlantic " " ... 9.18" = 300.30
	Winter North Atlantic " " ... 10.34" = 313.00

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.



Equivalent Camber :-

$$\begin{aligned} 4' \times 18' &= 72.00 \\ 13.5 \times 16.5 &= 222.75 \\ 16.5 \times 7.5 &= 123.75 \\ \hline &418.50 \end{aligned}$$

$$\frac{418.50}{34} \times \frac{3}{2} = 18.46'' \text{ equivalent}$$

Draft	Disp.	T.P.L.
29'-6	21300	66.75
30'	21750	66.95
30'-6	22100	67.15

Roop Equivalent :-

$$\begin{aligned} 3.65 \times 20 &= 73.00 \\ 3.65 \times 23.57 &= 86.03 \\ \hline &159.03 \end{aligned}$$

$$\frac{159.03}{67.14} = 2.37$$

$$\text{Roop at Side} = \frac{107.50}{109.87} = \text{equivalent}$$

Bridge Equivalent :-

$$\begin{aligned} 17.55 \times 4.25 &= 74.375 \\ 16.50 \times 2.125 &= 35.062 \\ \hline &109.437' \end{aligned}$$

$$\frac{109.437}{34} = 3.22'$$

$$\text{Bridge at Side} = \frac{35.75}{38.97} = \text{equivalent}$$

Trade of ship International

Names of sister ships T2 - SE - A1 Tankers

Builder's name and yard number Kaiser Co. Inc. No. 66

Owners French Government

Fee \$ 120.00 PA



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