

19 JUN 1963

Rpt. C.1 (comp.)

For LONDON OFFICE ONLY

LLOYD'S REGISTER OF SHIPPING

SURVEYS FOR FREEBOARD

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

Received
 Index No.
 Govt. Copy
 Owners CII

Ship's Name " LIKHOSLAVL "	Official Number 281	Nationality and Port of Registry RUSSIAN ODESSA	Gross Tonnage 22200 APPROX 22371.1	Date of Build AUGUST 1963	Port of Survey HIROSHIMA, JAPAN
Moulded Dimensions: Length 195000 Breadth 27000 Depth 14250 (TO CR OF RS) 195.000m					Date of Survey DURING CONSTRUCTION
Freeboard Length					Surveyor's Signature J.F.K. Tobin (J.F.K. TOBIN)
Moulded displacement at moulded draught = 85 per cent. of moulded depth (excluding bossing) 51836 METRIC tons					Particulars of Classification * 100AI OIL TANKER (CONTEMPLATED)
Coefficient of fineness for use with Tables .793					

DEPTH FOR FREEBOARD (D). m.	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth 14250	(a) Where D is greater than Table depth (D-Table depth) R = 8.33 (14.275 - 13.000) 30 = + 319 mm	Moulded Breadth (B) 27000 m. Standard Round of Beam = $\frac{B \times 25}{50} = \frac{540}{50} = 10.8$ mm
Stringer plate 25.4	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Ship's Round of Beam = 438 mm
Wood Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Difference 102 mm
Depth for Freeboard (D) = 14.275		Restricted to
		Correction = $\frac{\text{Diff}^\circ}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{102}{4} \times .691 = +17.7$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed (E.A.W.)	44.784	44.784	2.600	/	44.784
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed					
" overhang aft					
" overhang forward					
F'cle enclosed	23.270	23.270	2.500	/	23.270
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" " forward					
Total	68.054	68.054			68.054

Standard Height of Superstructure **2.290 m**" " R.Q.D. **-**Deduction for complete superstructure **1067 mm**Percentage covered $\frac{S}{L} =$ " " $\frac{S_1}{L} =$ **34.90.**" " $\frac{E}{L} =$ Percentage from Table, Line A. **Tanker 25.90**

(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 = **1067 x .2590 = - 276 mm.**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	1878	1		1878	1500	1500	1		1500
$\frac{1}{2}$ L from A.P.	835	4		3340	476	476	4		1704
$\frac{2}{3}$ L "	209	2		418	0	0	2		0
Amidships	0	4		0	0	0	4		0
$\frac{2}{3}$ L from F.P.	417	2		834	0	0	2		0
$\frac{1}{2}$ L "	1669	4		6676	33	33	4		132
F.P.	3757	1		3757	1500	1500	1		1500
Total				16903					4836

Mean actual sheer aft

Mean standard sheer aft =

DEFICIENT

Mean actual sheer forward

Mean standard sheer forward =

Length of enclosed superstructure forward of amidships =

" " aft of " =

TANKER.

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

If limited on account of midship superstructure.

($\frac{12067}{18} - 50$) x (.75 - .1745) = +357 mm ✓

If limited to maximum allowance of 1 1/2 ins. per 100ft.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **14.275**Summer freeboard = **3.567**Moulded draught (d) = **10.708**

Keel allowance =

Extreme draught =

Deduction for Tropical free-

board and addition for =

Winter freeboard = $\frac{d}{48}$ inches = **223 mm**

Addition for Winter North Atlantic Freeboard (if

required) = **223 + 162 = 385 mm**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 45476$ METRIC TONS

Tons per inch immersion at summer load water line

 $T = 46.04$ METRIC TONSDeduction = $\frac{46.04}{40}$ inches= **248 mm**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

 $\frac{.793 + .68}{1.36} = 1.473 / 1.36$

Depth Correction

Deduction for superstructures

Sheer correction

Round of Beam correction

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc.

2908**3150****3567**SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Steel~~, Deck :-Tropical Fresh Water Line above Centre of Disc ... **471 mm**Fresh Water Line " " ... **248 mm**Tropical Line " " ... **223 mm**Winter Line below " " ... **223 mm**Winter North Atlantic Line " " ... **385 mm**

Tropical Fresh Water Freeboard

Fresh Water " "

Tropical " "

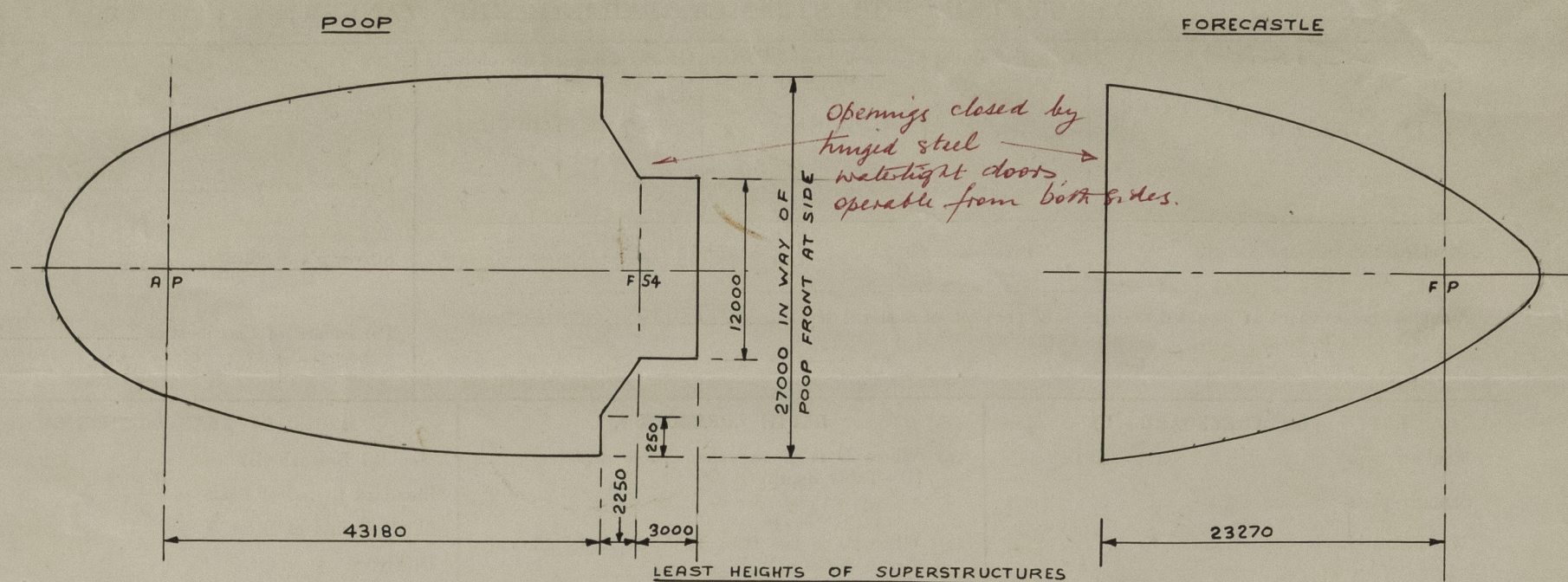
Winter " "

Winter North Atlantic " "

3567**3096****3319****3344****3790****3952****3952****3952****3952****3952****3952**

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.

DISPOSITION OF SUPERSTRUCTURES



EQUIVALENT POOP

$$43.180 + \left[\frac{\frac{1}{2}(14.0 + 26.5) \cdot 2.75}{27.00} \right]$$

$$= 43.180 + 1.604$$

$$= 44.784 \text{ m.}$$

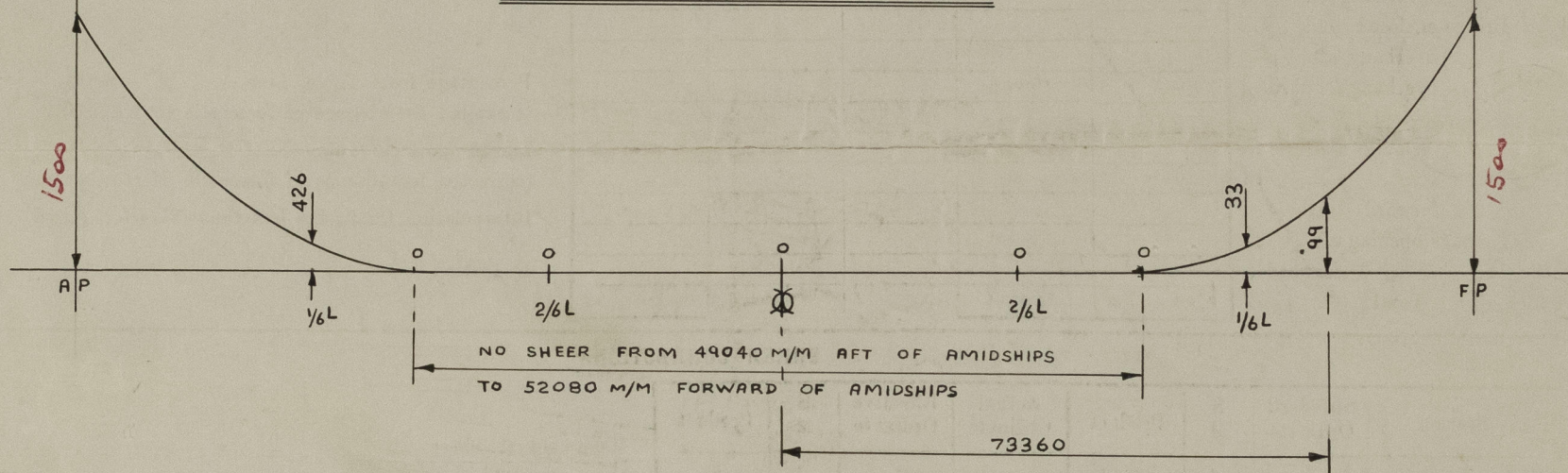
SHEER ALLOWANCE FOR EXCESS POOP DECK HEIGHT

$$= \frac{1}{3} \times 43.18 / 198.0 \times (2700 - 2290) = 30 \text{ mm}$$

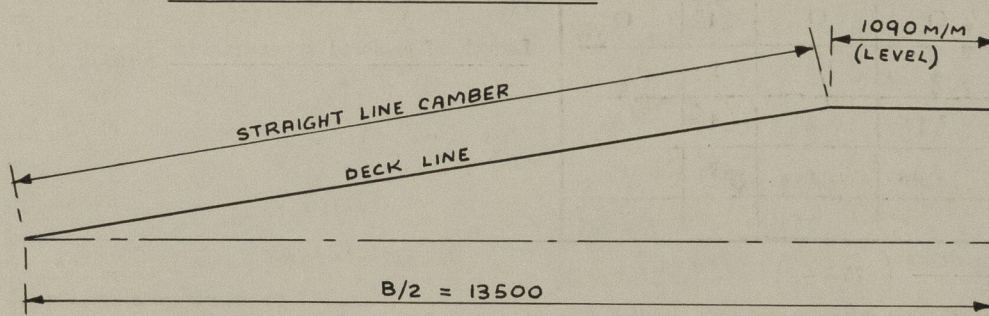
SHEER ALLOWANCE FOR EXCESS FORECASTLE HEIGHT

$$= \frac{1}{3} \times 23.27 / 198.0 \times (2800 - 2290) = 20 \text{ mm}$$

SHEER HEIGHTS AT FREEBOARD DECK.



CAMBER ON FREEBOARD DECK



EQUIVALENT CAMBER

$$\frac{\frac{1}{2}(1.090 + 13.500) \cdot 540}{13.500} \times \frac{3}{2}$$

$$= 438 \text{ mm.}$$

Trade of ship INTERNATIONAL

Names of sister ships "LUGANSK", "LEBEDIN". (BUILDER'S NOS 145 & 146)

Builder's name and yard number MITSUBISHI SHIPBUILDING & ENGINEERING CO, LTD, HIROSHIMA. SHIP NO 161.

Owners V/O SUDOIMPORT, MOSCOW, U.S.S.R.

Fee £.....

List of plans forwarded for reference. (See "Instructions to Surveyors, Part 4, 1950", paragraph 11.)



© 2021
Lloyd's Register
Foundation