

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.
(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Index. No. _____
(For London Office only).

BUILDERS' Name MESSRS. ROTTERDAM DRYDOCK YARD No. 213	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build	Port of Survey LONDON.
Moulded Dimensions: Length 430.0' Breadth 62.5' Depth 24.5'					Date of Survey 29-12-38.
Moulded displacement at moulded draught = 85 per cent. of moulded depth 12785 tons					Surveyor's Signature
Coefficient of fineness for use with Tables .80					Particulars of Classification + 100 A.1. CARRYING PETROLEUM IN BULK (CONTEMPLATED)

Depth for Freeboard (D). Moulded depth ... 24.50 Stringer plate05 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ ✓ Depth for Freeboard (D) = 24.55	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 = ✓ (28.67-24.55)3 = -12.36" 4.12 ✓ If restricted by superstructures $12.36 \times \frac{7.0}{7.5} = -11.53"$	Round of Beam correction. Moulded Breadth (B) = 62.50' Standard Round of Beam = $\frac{B \times 12}{50} = 15.00"$ Ship's Round of Beam = 14.96" Difference DEFICIENCY = .04" Restricted to ✓ Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.04}{4} (.24) = \text{NEGLIGIBLE}$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	91.01 ✓	91.01 ✓	7.50	-	91.01 ✓
„ overhang ...					
R.Q.D. enclosed ...					
„ overhang ...					
Bridge enclosed ...					
„ overhang aft ...					
„ overhang forward ...					
F'cle enclosed ...	60.00 ✓	60.00 ✓	10.50	-	60.00 ✓
„ overhang ...					
Trunk aft (A) ...		8.55	7.25	$\frac{7.25}{7.50}$	8.26 ✓
„ forward (B, C, D) ...		167.25	7.00	$\frac{7.00}{7.50}$	156.06 ✓
Tonnage opening aft ...					
„ „ forward ...					
Total ...	151.01 ✓	326.81 ✓			315.33 ✓

Standard Height of Superstructure ... 7.50'	
„ „ R.Q.D. ... ✓	
Deduction for complete superstructure ... 42.00"	
Percentage covered $\frac{S}{L} = 35.12$ ✓	
„ „ $\frac{S_1}{L} = 76.00$ ✓	
„ „ $\frac{E}{L} = 73.33$ ✓	
Percentage from Table, Line A. TANKER = 67.10 (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 = $42.00 \times .6710 = 28.18"$	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	53.00	1		53.00	21.00 ✓	21.00 ✓	1		21.00 ✓
$\frac{1}{4}$ L from A.P. ...	23.59	4		94.36	6.00	6.00	4		24.00
$\frac{2}{4}$ L „ ...	5.83	2		11.66	2.95	2.95	2		5.90
Amidships ...	-	4		-	-	-	4		-
$\frac{3}{4}$ L from F.P. ...	11.66	2		23.32	5.59	5.59	2		11.18
$\frac{1}{4}$ L „ ...	47.175	4		188.70	22.68	22.68	4		90.72
F.P. ...	106.00	1		106.00	51.00 ✓	51.00 ✓	1		51.00 ✓
Total ...				477.04					203.80

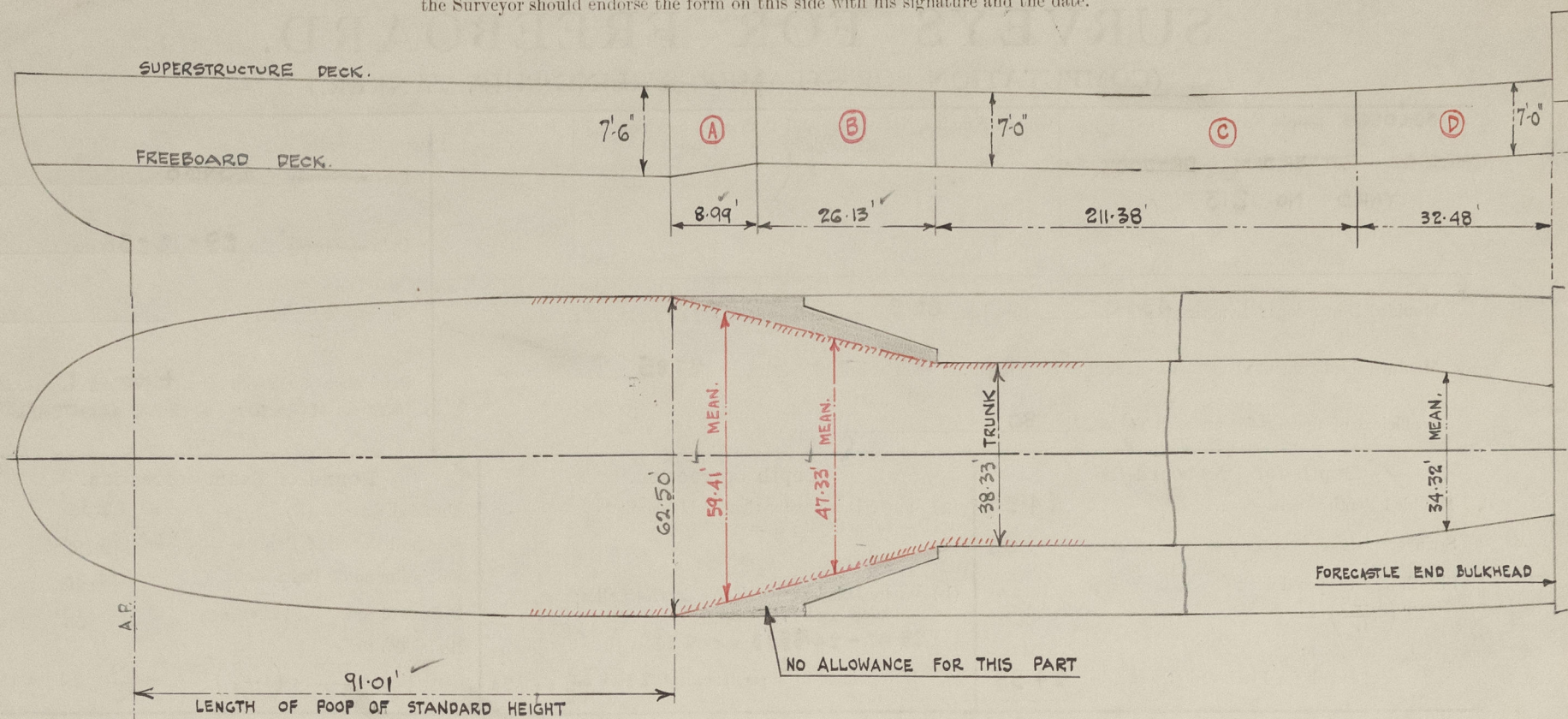
Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{273.24}{18} (.75 - .1756) = + 8.72"$
If limited on account of midship superstructure. 57.44 ✓
If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 24.55 ✓ Summer freeboard = 3.75 ✓ Moulded draught (d) = 20.80 ✓ Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = $5.20 = 5\frac{1}{4}"$ Addition for Winter North Atlantic Freeboard (if required) = $5.20 + 4.30 = 9.50 = 9\frac{1}{2}"$	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ Tons per inch immersion at summer load water line T = Deduction = $\frac{\Delta}{40T}$ inches $\frac{1}{4} = 5\frac{1}{4}"$ ✓	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{.80 + .68}{1.36} = \frac{1.48}{1.36}$ Depth Correction ... 11.53 ✓ Deduction for superstructures ... 28.18 ✓ Sheer correction ... 8.72 ✓ Round of Beam correction ... - ✓ Correction for Thickness of Deck amidships ... - ✓ Other corrections, scantlings, etc. ... - ✓ 8.72 39.71 - 30.99" Summer Freeboard = 45.08"	69.90" 76.07" ✓ 81.8. 30.12.38.
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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 ... 10 1/2" ✓	Tropical Fresh Water Freeboard ... 2 10 1/2" ✓
Fresh Water Line „ „ ... 5 1/4" ✓	Fresh Water „ „ ... 3 3 3/4" ✓
Tropical Line „ „ ... 5 1/4" ✓	Tropical „ „ ... 3 3 3/4" ✓
Winter Line below „ „ ... 5 1/4" ✓	Winter „ „ ... 4 2 1/4" ✓
Winter North Atlantic Line „ „ ... 9 1/2" ✓	Winter North Atlantic „ „ ... 4 6 1/2" ✓

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.



TRUNK EQUIVALENT LENGTH.

$$\textcircled{A} \quad 8.99 \times \frac{59.41}{62.50} = 8.55'$$

$$\textcircled{B} \quad 26.13 \times \frac{47.33}{62.50} = 19.79$$

$$\textcircled{C} \quad 211.38 \times \frac{38.33}{62.50} = 129.63$$

$$\textcircled{D} \quad 32.48 \times \frac{34.32}{62.50} = 17.83$$

$$\underline{\underline{167.25}}$$

The mean covered length of poops allowed is the length of superstructure having a height equal to the standard height. The erections lettered \textcircled{A} and \textcircled{B} have been considered as trunks of varying breadth and height, and varying breadth respectively. The sheer ordinates aft have been measured to the actual freeboard deck.

Trade of ship.....

Names of sister ships.....

Builder's name and yard number.....

Owners.....

Fee £.....



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Foundation