

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

GRK. REPORT N° 23360.

Ship's Name SHAHTEHAN.	Official Number 180970	Nationality and Port of Registry BRITISH LONDON	Gross Tonnage 5460 <i>APPROX.</i> 5400	Date of Build 1946	Port of Survey GREENOCK
Moulded Dimensions: Length 404' 0" BP. Breadth 53' 75" Depth 31' 25" 404' 56" 404' 6 3/4" To C^o of Stock					Date of Survey WHILE BUILDING 1946
Moulded displacement at moulded draught = 85 per cent. of moulded depth 12296 tons					Surveyor's Signature <i>Kenneth Ingham</i>
Coefficient of fineness for use with Tables .745					Particulars of Classification +100 A.1. CONTEMPLATED.

Depth for Freeboard (D). Moulded depth ... 31' 25" Stringer plate50" .04 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 31' 29"	Depth correction. (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(31.29 - 26.97) 3 = +12.96" \checkmark$ (b) Where D is less than Table depth (if allowed) $(\text{Table depth} - D) R =$ If restricted by superstructures	Round of Beam correction. Moulded Breadth (B) 53' 75" Standard Round of Beam $= \frac{B \times 12}{50} = 12.90"$ Ship's Round of Beam $= 13 \frac{1}{2}"$ Difference + .60" Restricted to Correction $= \frac{\text{Diff}^2}{4} \times (1 - \frac{S_1}{L}) = \frac{.60^2 \times .511}{4} = -.08" \checkmark$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S _i)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	40' 75"	40' 75"	7' 9"		40' 75"
„ overhang ...					
R.Q.D. enclosed ...					
„ overhang ...					
Bridge enclosed... <i>equiv.</i>	118' 00" <i>123' 9" AT CENTRE</i> <i>114' 0" AT SIDE</i>	118' 00"	7' 9"		118' 00"
„ overhang aft ...	2' 4"	4' 88"			4' 88"
„ overhang forward	6' 50"				
F'cle enclosed... <i>equiv.</i>	30' 40"	30' 40"	7' 6"		30' 40"
„ overhang ...	3' 81"	3' 81"			3' 81"
Trunk aft ...					
„ forward ...					
Tonnage opening aft ...					
„ „ forward					
Total ...	199' 46"	197' 84"			197' 84"

Standard Height of Superstructure **7.5'**
 „ „ R.Q.D. **—**
 Deduction for complete superstructure **42"**
 Percentage covered $\frac{S}{L} = 49.30$
 „ „ $\frac{S_i}{L} =$
 „ „ $\frac{E}{L} =$ **48.9**
 Percentage from Table, Line A.
 (corrected for absence of forecastle (if required))
 Percentage from Table, Line B. **35.06**
 (corrected for absence of forecastle (if required))
 Interpolation for bridge less than .2L (if required) **✓**
 Deduction = **42 x .3506 = -14.73"**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	50' 46"	1	50' 46"	60	60' 00"	60' 00"	1	60' 00"	60' 00"
1/3 L from A.P. ...	22' 45"	4	89' 80"	26' 75"	26' 75"	26' 75"	4	107' 00"	107' 00"
2/3 L „ ...	5' 55"	2	11' 10"	6' 75"	6' 75"	6' 75"	2	13' 50"	13' 50"
Amidships ...	—	4	—	0	—	—	4	—	—
2/3 L from F.P. ...	11' 10"	2	22' 20"	13' 5"	13' 50"	13' 50"	2	27' 00"	27' 00"
1/3 L „ ...	44' 90"	4	179' 60"	53' 5"	53' 50"	53' 50"	4	214' 00"	214' 00"
F.P. ...	100' 91"	1	100' 91"	120	120' 00"	120' 00"	1	120' 00"	120' 00"
Total ...			454' 07"					541' 50"	

Mean actual sheer aft =
 Mean standard sheer aft = } **Excess**
 Mean actual sheer forward =
 Mean standard sheer forward =
 Length of enclosed superstructure forward of amidships = } **> 1**
 „ „ aft of „ = }
 Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{87.43}{18} \left(\frac{.75 - .2465}{.5035} \right) = -2.45" \checkmark$
 If limited on account of midship superstructure **✓**
 If limited to maximum allowance of 1 1/2 ins. per 100 ft. **✓**

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 31' 29" Summer freeboard = 6' 00" Moulded draught (d) = 25' 29" Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6' 32" = 6 1/4" Addition for Winter North Atlantic Freeboard (if required) = ✓	Deduction for Fresh Water. Displacement in salt water at summer load water line 25' - 115' 6" $\Delta = 26' - 120' 35"$ Tons per inch immersion at summer load water line 25 - 42' 92" $T = 26 - 43' 25"$ Deduction = $\frac{\Delta}{40T}$ inches = 11755 / 40 x 43' 07" = 6' 82" = 6 3/4"	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{.745 + .68}{1.36} = \frac{1.425}{1.36}$ Depth Correction ... 12' 96" Deduction for superstructures ... 14' 73" Sheer correction ... 2' 45" Round of Beam correction08" Correction for Thickness of Deck amidships ... Other corrections, scantlings, etc. ... 12' 96" 17' 26" - 4' 30" = 72' 10" Summer Freeboard = 72' 10"
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:

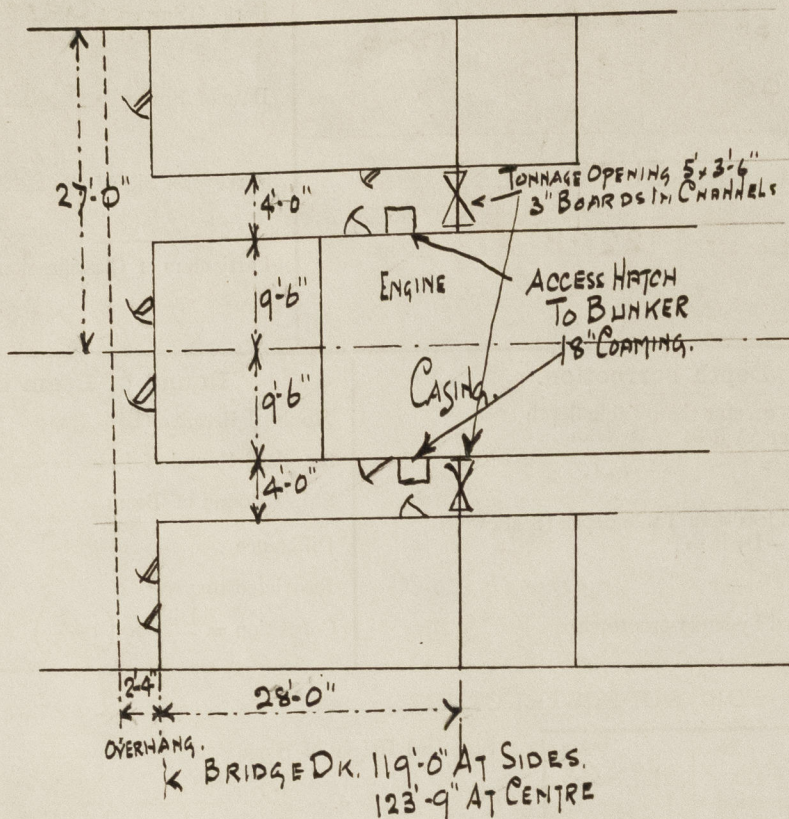
Tropical Fresh Water Line above Centre of Disc ... 13"	Tropical Fresh Water Freeboard ... 6' 0"
Fresh Water Line „ „ ... 6 3/4"	Fresh Water „ „ ... 5' 5 1/4"
Tropical Line „ „ ... 6 1/4"	Tropical „ „ ... 5' 5 3/4"
Winter Line below „ „ ... 6 1/4"	Winter „ „ ... 6' 1/4"
Winter North Atlantic Line „ „ ... ✓	Winter North Atlantic „ „ ... ✓

29.8.46

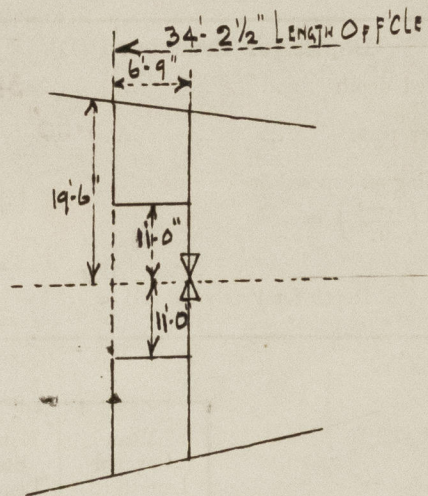
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A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.

SKETCH OF AFT END OF BRIDGE



FORECASTLE FRONT



Bridge equivalent:-

Bridge centre	123.75	✓
" side	119.00	✓
	$\frac{119.00}{\sqrt{4.75} \times \frac{2}{3}} = 3.17$	✓
	122.17	✓
Overhang aft	= 2.33	✓
Total	= 124.50	✓

Equivalent overhang:-	2.33	✓
	$\frac{28 \times 4 \times 2}{53.75} = 4.17$	✓
	<u>6.50</u>	✓

Forecastle	34.21	✓
less	$\frac{22 \times 6.75}{\sqrt{39}} = 3.81$	✓
	<u>30.40</u>	✓

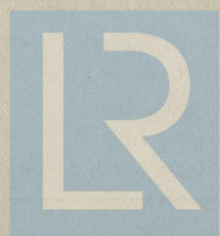
Trade of ship INTERNATIONAL.

Names of sister ships NADIR LITHGOWS No 1004. REPORT No 22827

Builder's name and yard number LITHGOWS LTD No 1012

Owners ASIATIC STEAM NAVIGATION LTD

Approx. Fee £ 16 0 0



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