

Rpt. C.11 (Comp.)

For LONDON OFFICE ONLY

SISTER TO AGATAN
12151

LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

SURVEYS FOR FREEBOARD

(COMPUTATION FOR STEAMER, ~~4400000 40000 40000~~)

Received

Index No.

Govt. Copy

Owners C11

Ship's Name "ARBAN"	Official Number -	Nationality and Port of Registry Russian Leningrad	Gross Tonnage 1440 1500	Date of Build 11.59	Port of Survey Gävle
Moulded Dimensions: Length 71.800 m ✓ Breadth 12.50 m ✓ Depth 5.20 to main deck ✓ Freeboard Length 72.000 m ✓ Moulded displacement at moulded draught = 85 per cent. of moulded depth 2207 m ³ ✓ (excluding bossing) Coefficient of fineness for use with Tables 0.680 (ACTUAL 0.555)					Date of Survey Whilst building
Surveyor's Signature <i>H. O. Oelshagen</i>					Particulars of Classification +100A1 FOR TOWING SERVICES Class contemplated.

DEPTH FOR FREEBOARD (D), mm Moulded depth ... 5200 Stringer plate ... 14 Wood Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 5214 ✓	DEPTH CORRECTION. (a) Where D is greater than Table depth (D - Table depth) R = $8.33(5.214 - 4.800) \frac{72}{3.96} = +63$ (b) Where D is less than Table depth (if allowed) (Table depth - D) R = If restricted by superstructures ✓	ROUND OF BEAM CORRECTION, mm Moulded Breadth (B) 12500 ✓ Standard Round of Beam = $\frac{B \times 100}{50} =$ 250 ✓ Ship's Round of Beam = 244 ✓ Difference 6 ✓ Restricted to Correction = $\frac{\text{Diff}^\circ}{4} \times \left(1 - \frac{S}{L} \right) = \frac{6}{4} \left(1 - \frac{0.4576}{1} \right) = 1$ ✓
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DEDUCTION FOR SUPERSTRUCTURES.

See sketch overleaf	Mean Covered Length (S)	Equivalent Enclosed Length (S _i)	Height	Height Correction	Effective Length (E)
Poop enclosed ...			2300 ✓		
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
F'cle enclosed EQUIV...	38.202	38.202	2300 ✓		38.202
" overhang ...	0.173	0.130			130
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...	38.375	38.332			38.332

Standard Height of Superstructure **1830** ✓
 " " R.Q.D. ✓
 Deduction for complete superstructure **753** ✓
 Percentage covered $\frac{S}{L} =$ **53.29** ✓
 " " $\frac{S_i}{L} =$ } **53.24** ✓
 " " $\frac{E}{L} =$ }
 Percentage from Table, Line A. **36.54** ✓
 Percentage from Table, Line B. **39.24** ✓
 Interpolation for bridge less than 2L ~~(37.4)~~ **37.4** ✓
 Deduction = **753 × 0.3 = 282** ✓

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	854	1	854	763	763	1	763		
$\frac{1}{2}$ L from A.P. ...	379	4	1516	224	224	4	896		
$\frac{3}{4}$ L " ...	95	2	190	13	13	2	26		
Amidships ...	0	4	0	0	0	4	0		
$\frac{3}{4}$ L from F.P. ...	190	2	380	362	240	2	480		
$\frac{1}{2}$ L " ...	759	4	3036	1005	959	4	3836		
F.P. ...	1708	1	1708	2003	2158	1	2158		
Total ...			7684				8159		

Mean actual sheer aft
 Mean standard sheer aft = **0.6476 DEFICIENT.**
 Mean actual sheer forward
 Mean standard sheer forward = **EXCESS.**
 Length of enclosed superstructure forward of amidships = **0.1L** ✓
 " " aft of " = **3.24%** ✓

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{475}{18} (0.75 - 0.2665) = -13$ ✓
 If limited on account of midship superstructure. $13 \times 13.24/20 = -9$ ✓
 If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100ft.

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 17.11 ✓ Summer freeboard = 3.73 ✓ Moulded draught (d) = 13.38 ✓ Keel allowance = Extreme draught = Deduction for Tropical freeboard and addition for 141 Winter freeboard = $\frac{d}{4}$ inches = 3.35" 3/4" ✓ Addition for Winter North Atlantic Freeboard (if required) = 3 1/4" + 2" = 5 1/4" ✓	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ 2037 tons ✓ Tons per cm immersion at summer load water line $T =$ 6.77 ✓ Deduction = $\frac{\Delta}{40 T}$ inches $=$ 78 mm $=$ 3" ✓	TABULAR FREEBOARD Correction for coefficient NIL Depth Correction ... 63 ✓ Deduction for superstructures ... 282 ✓ Sheer correction ... 9 ✓ Round of Beam correction ... 1 ✓ Correction for Thickness of Deck amidships ... Other corrections, scantlings, etc. ... TO A SUMMER MOULDED DRAUGHT OF 4.075 m (ACTUAL 4.077 m) Summer Freeboard = 1138 mm (44.75')	755 755 383 1138 mm (44.75')
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~4400000 40000 40000~~ Steel, Deck:—

Tropical Fresh Water Line above Centre of Disc ...	6 1/4"	Tropical Fresh Water Freeboard ...	3'-8 3/4"
Fresh Water Line " " ...	3"	Fresh Water " " ...	3'-2 1/2"
Tropical Line " " ...	3 1/4"	Tropical " " ...	3'-5 3/4"
Winter Line below " " ...	3 1/4"	Winter " " ...	3'-5 1/2"
Winter North Atlantic Line " " ...	5 1/4"	Winter North Atlantic " " ...	4'-0"
			4'-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.

DISPLACEMENT	DISPLACEMENT ON SHELL, TON (METRIC) IN SALT WATER	TON/CM ON SHELL METRIC TON
100 % of mould. depth	2830 ✓	7.00 ✓
95 % " " "	2660 ✓	7.00 ✓
85 % " " "	2276 ✓	6.90 ✓
75 % " " "	1914 ✓	6.70 ✓

SHEER AFT

STANDARD	SM	PRODUCT	ACTUAL	SM	PRODUCT
854	1	854	763	1	763
379	3	1137	224	3	672
95	3	285	13	3	39
0	1	0	0	1	0
		2276			1474

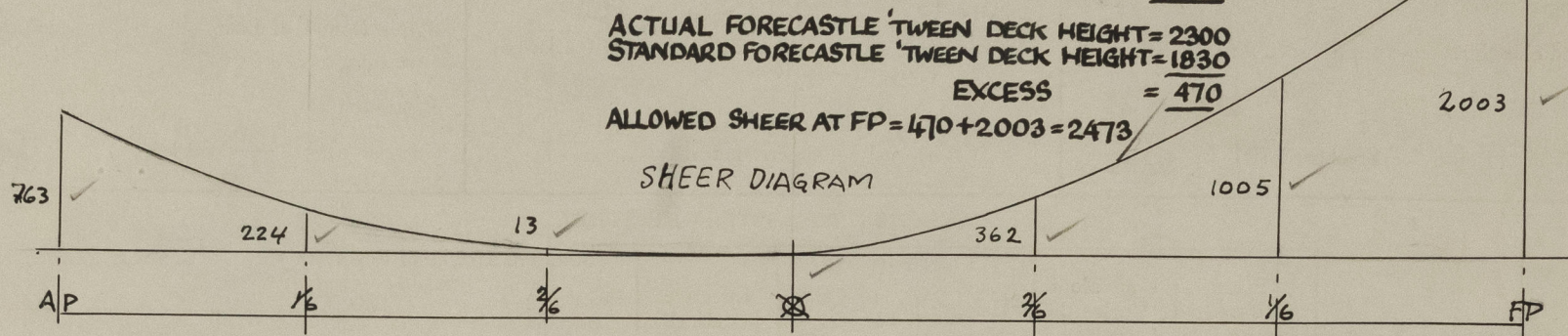
$$\frac{\text{ACTUAL}}{\text{STANDARD}} = \frac{1474}{2276} = 64.76\%$$

SHEER FORWARD

STANDARD	SM	PRODUCT	ACTUAL	SM	PRODUCT
0	1	0	0	1	0
190	3	570	272	3	816
759	3	2277	1100	3	3300
1708	1	1708	2473	1	2473
		4555			6589
					4555
					2034

$$4555 + \frac{1201}{25} (2034 \times \frac{14.76}{25}) = 5756$$

$$\text{ALLOWED SHEER} = \text{STANDARD ORDNATE} \times \frac{5756}{4555}$$



FORECASTLE

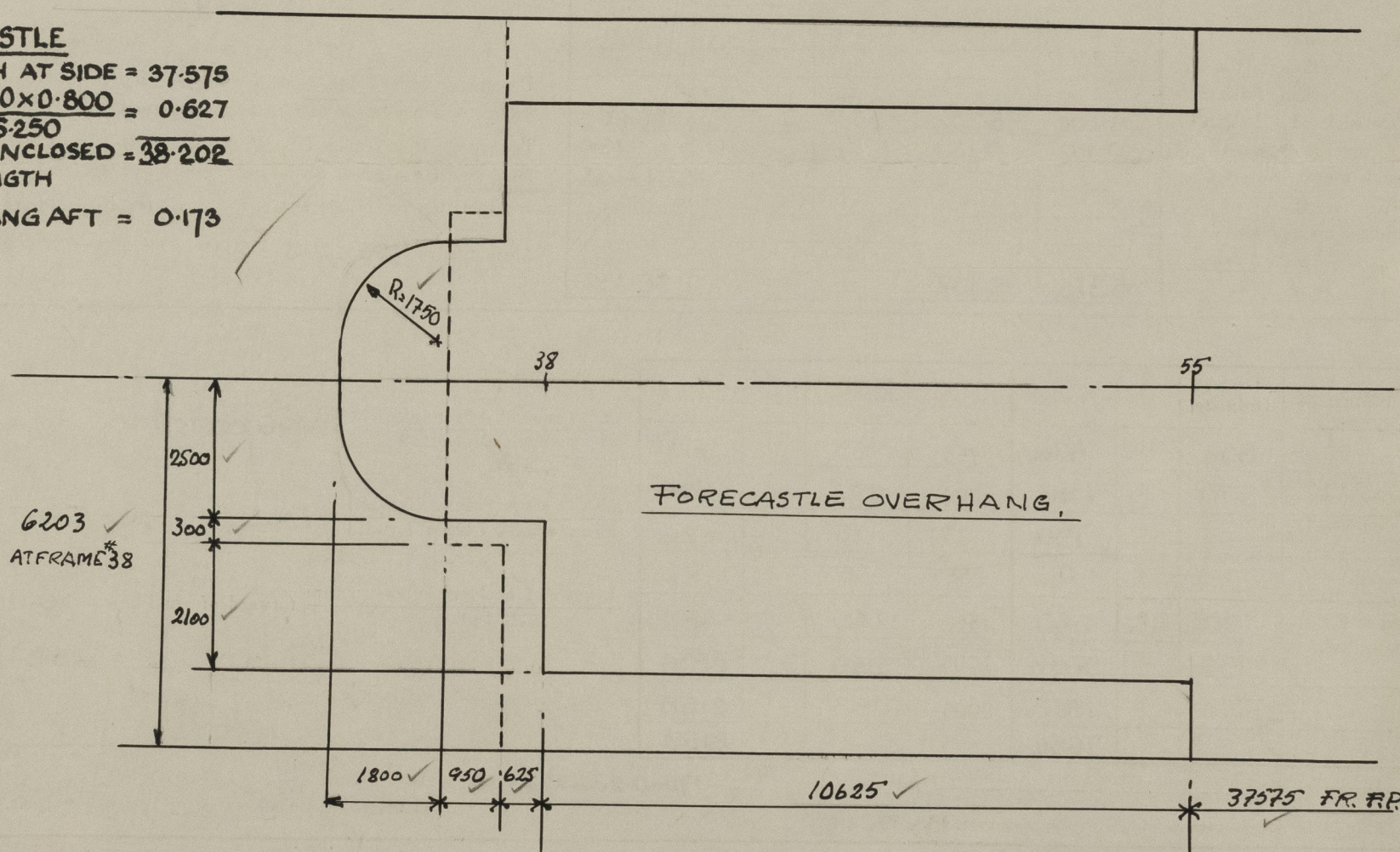
$$\text{LENGTH AT SIDE} = 37.575$$

$$+ \frac{4.900 \times 0.800}{6.250} = 0.627$$

$$\text{EQUIVALENT ENCLOSED} = 38.202$$

LENGTH

$$\text{OVERHANG AFT} = 0.173$$



Trade of ship International.

Names of sister ships "AGATAN", Yard No. 101, Skm. Rpt. No. 12151.

Builder's name and yard number A/B Gävle Varv, Yard No. 102.

Owners U.S.S.R.

Fee 455.50

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

1. Longitudinal section and plans.
2. Midship section.



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