13298.

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

Computation of Freeboard for ~~Steamer,~~ ~~Sailing Ship,~~ Tanker

having **Poop, Bridge and Forecastle**

(Type of Superstructures.)

Port of Survey **Gothenburg**

Date of Survey **7th, 9 and 20th of October 1941**

Name of Surveyor **Bertrand Graners**

Particulars of Classification **⚓ 100 A1**
contemplated
carrying Petroleum in Bulk

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
M/s Now named "PIENINY" s/s **TANKLAND**	Swedish Gothenburg	8498	8044 (Swed.)	1941 11

Moulded Dimensions :/Length **141.921 m** Breadth **18.518 m** Depth **10.363 m**

Moulded displacement at moulded draught = 85 per cent. of moulded depth **18370 m³** ~~tons~~

Coefficient of fineness for use with Tables **7935**

Depth for Freeboard (D)
Moulded depth **10363**

Stringer plate ... 325 **21.5 m** ... **22**

Sheathing on exposed deck $T\left(\frac{L-S}{L}\right) =$ **-**

Depth for Freeboard (D) = **10385**

Depth correction
(a) Where D is greater than Table depth
(D—Table depth) R =
$8.33(10.363 - 9.461) 30 = +231\%$
924
(b) Where D is less than Table depth (if allowed)
(Table depth—D) R =

If restricted by superstructures

Round of Beam correction
Moulded Breadth (B) **18518 m**

Standard Round of Beam = $\frac{B \times m}{50}$ = **370**

Ship's Round of Beam = **386 m**

Difference **Excess = 16 m**

Restricted to

Correction = $\frac{Diff^n}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{16}{4} \times .6437 = -3\%$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S) m/m	Equivalent Enclosed Length (S₁) m/m	Height m/m	Height Correction	Effective Length (E)
Poop enclosed	38.484 29063	29063	2286	-	29063
„ overhang	29063				
R.Q.D. enclosed ...					
„ overhang ...	9950				
Bridge enclosed...	4.625	9950	2286	-	9950
„ overhang aft ...					
„ overhang forward					
F'cle enclosed	11560	11560	2286	-	11560
„ overhang					
Trunk aft ...					
„ forward ...					
Tonnage opening aft ...					
„ „ forward					
Total	50,573	50,573			50573

Standard Height of Superstructure **2290 m**

„ „ R.Q.D.

Deduction for complete superstructure **1067 m/m**

Percentage covered $\frac{S}{L}$ = **35.63**

„ „ $\frac{S_1}{L}$ = **35.63**

„ „ $\frac{E}{L}$ = **35.63**

Percentage from Table, ~~Line A.~~ **Tanker**
(corrected for absence of forecastle (if required)) **26.63 %**

Percentage from Table, Line B.
(corrected for absence of forecastle (if required))

Interpolation for bridge less than .2L (if required)

Deduction = $1067 \times .2663$ = **-284 m**

SHEER CORRECTION.

Station	Standard Ordinate m/m	S M	Product	Actual Ordinate m/m	Effective Ordinate	S M	Product
A.P.	~~1436~~ 1016 ~~638~~	1	1436	1016	1016	1	1016
⅙L from A.P. ...	~~373~~ 64	4	2552	371	371	4	1484
⅔L „	160 64	2	320	64	64	2	128
Amidships ...	0	4	-	0	0	4	0
⅔L from F.P. ...	319 ~~143~~	2	638	193	193	2	386
⅙L „	1276 ~~886~~	4	5104	886	886	4	3544
F.P.	2572 ~~2032~~	1	2572	2032	2032	1	2032
Total ...			12922				8590

$\frac{\text{Mean actual sheer aft}}{\text{Mean standard sheer aft}}$ = **Deficient**

$\frac{\text{Mean actual sheer forward}}{\text{Mean standard sheer forward}}$ = **Deficient.**

$\frac{\text{Length of enclosed superstructure}}{L}$ forward of amidships =

„ „ aft of „ =

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L}\right) = \frac{4332}{18} \frac{(.75 - .1782)}{.5718} = +138 m$

If limited on account of midship superstructure.

If limited to maximum allowance of 1½ ins. per 100 ft. ✓

Deduction for Tropical Freeboard.
Addition for Winter and Winter North Atlantic Freeboard.

	Ft.
Depth to Freeboard Deck =	10385
Summer freeboard =	2259
Moulded draught (d) =	8126

Deduction for Tropical freeboard and addition for
Winter freeboard = $\frac{d}{48}$ inches = **169 m**

Addition for Winter North Atlantic Freeboard (if required = **169 + 116 = 285**

Deduction for Fresh Water.
Displacement in salt water at summer load water line
Δ = **17046 tons**

Tons per inch immersion at summer load water line
T = **58.84**

Deduction = $\frac{\Delta}{40 T}$ inches
= **7.24 = 184 m**

See end of report

TABULAR FREEBOARD corrected for Flush Deck (if required)
2009 m

Correction for coefficient $2009 \times \frac{.7935 + .68}{1.36}$

2177

	+	-
Depth Correction	231	
Deduction for superstructures		284
Sheer correction	138	
Round of Beam correction		3
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc.		
	369	287 + 82

Summer Freeboard = **2259 m**

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood,~~ Steel, Deck :- **2259 m**

Tropical Fresh Water Line above Centre of Disc	**353 m**	Tropical Fresh Water Freeboard ... ... **1906 m**
Fresh Water Line „ „	**184**	Fresh Water **2075 m**
Tropical Line „ „	**169**	Tropical **2090 m**
Winter Line below „ „	**169**	Winter **2428 m**
Winter North Atlantic Line „ „ ...	**285**	Winter North Atlantic **2544 m**