

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

MOB. 17870.

(COMPUTATION FOR ~~STEAMER, SAILING SHIP~~ TANKER.) & WHALE-OIL FACTORY.

Ship's Name FURNESS. S.B. C² L² YARD N: 388 NORHVALL	Official Number	Nationality and Port of Registry NORWEGIAN.	Gross Tonnage 17,000 APPROX.	Date of Build 1945	Port of Survey MIDDLESBROUGH
Moulded Dimensions: Length 535'-0" Breadth 74'-0" Depth 57'-0" To FLENSING DECK. EXTREME DISPLACEMENT AT MLD DRAUGHT OF 34'-4" (T.P. 85.67, MLD. 82.58) = 32,350 TONS. Moulded displacement at moulded draught = 85 per cent. of moulded depth = 48.45' = 46,250 tons. " " " " " = (.85 x 49' FLAT) = 41.64' = 39,450 TONS. Coefficient of fineness for use with Tables .843					Date of Survey WHILE BUILDING
Surveyor's Signature H. Young					Particulars of Classification 100 A.1. CARRYING PETROLEUM IN BULK. (CLASS CONTEMPLATED)

DEPTH FOR FREEBOARD (D). Moulded depth To FLENSING DECK. ... 57.00' Stringer plate .76"06' Sheathing on exposed deck 3" SHEATHING $T \left(\frac{L-S}{L} \right) = \text{OR CAULKED.}$ Depth for Freeboard (D) = 57.06'	DEPTH CORRECTION. (a) Where D is greater than Table depth $(D - \text{Table depth}) R = (57.06 - 35.71) \times 3 = +64.05'$ (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) 74' Standard Round of Beam = $\frac{B \times 12}{50} = 17.76'$ Ship's Round of Beam 6.69' Difference 11.07' Restricted to 74' Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{11.07}{4} \times .8077 = +2.24'$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
F'cle enclosed ...	97.00'	97.00'	8.0'	-	97.00'
" overhang ...	12.00'	6.00'			6.00'
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...	109.00'	103.00'			103.00'

Standard Height of Superstructure **7.5'**
 " " R.Q.D. **✓**
 Deduction for complete superstructure **42'**
 Percentage covered $\frac{S}{L} = 20.34\%$
 " " $\frac{S_1}{L} = 19.23\%$
 " " $\frac{E}{L} =$
 Percentage from Table, Line A. **9.61%**
 (corrected for absence of fore-castle (if required))
 Percentage from Table, Line B. **✓**
 (corrected for absence of fore-castle (if required))
 Interpolation for bridge less than .2L (if required) **✓**
 Deduction = **42 x .0961 = -4.04'**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	63.57	1		63.57	3.62	3.62	1		3.62
$\frac{1}{2}L$ from A.P. ...	28.29	4		113.16	0	-	4		-
$\frac{3}{8}L$ " ...	6.995	2		13.99	0	-	2		-
Amidships ...	-	4		-	0	-	4		-
$\frac{3}{8}L$ from F.P. ...	13.99	2		27.98	0	-	2		-
$\frac{1}{2}L$ " ...	56.58	4		226.32	2.12	2.12	4		8.48
F.P. ...	127.15	1		127.15	36.00	36.00	1		36.00
Total ...				572.17					48.10

Mean actual sheer aft = **3.62**
 Mean standard sheer aft = **3.62**
 Mean actual sheer forward = **2.12**
 Mean standard sheer forward = **2.12**
 Length of enclosed superstructure forward of amidships = **113.16'**
 " " aft of " = **113.16'**
 Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{524.07(-.75 - .1017)}{18} = +18.87'$
 If limited on account of midship superstructure. **6483** If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. **✓**

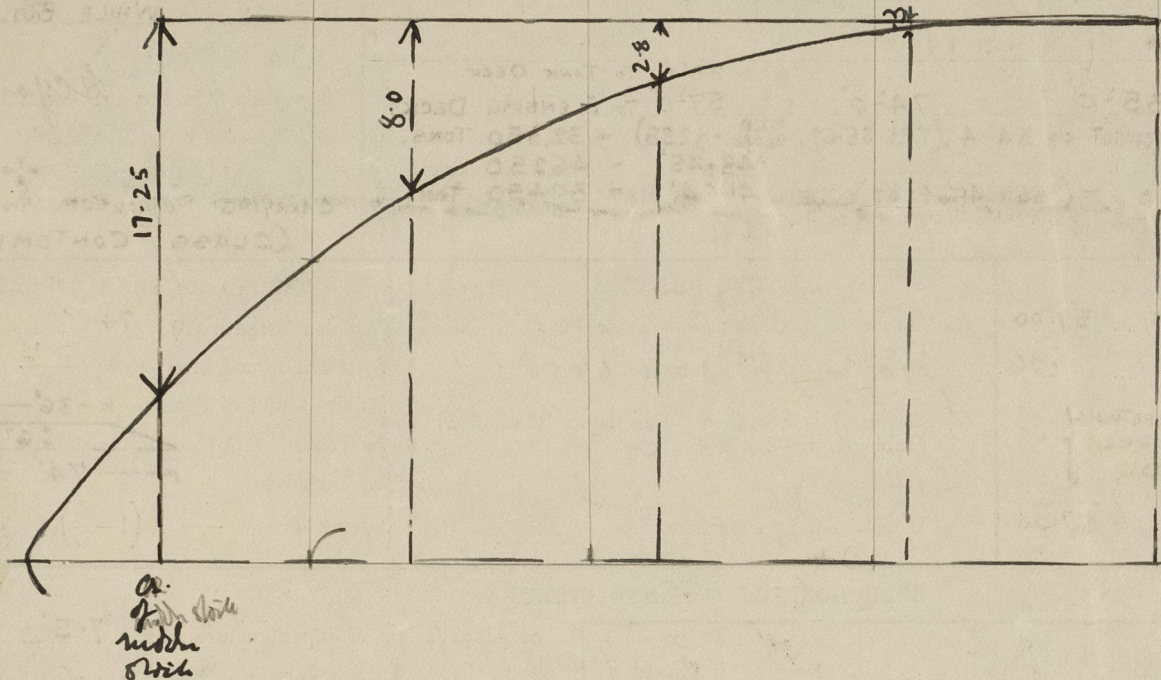
Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 57.06' Summer freeboard = 22.743' Moulded draught (d) = 34.33' Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 8.58' = 8\frac{1}{2}' Addition for Winter North Atlantic Freeboard (if required) = ✓	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta = 32,350$ Tons per inch immersion at summer load water line $T = 85.67$ Deduction = $\frac{\Delta}{40T}$ inches = 9.44' = 9\frac{1}{2}'	TABULAR FREEBOARD corrected for Flush Deck (if required) $.843 + .68 = 1.523$ Correction for coefficient $\frac{1.523}{1.36}$ Depth Correction ... 64.05' Deduction for superstructures ... 4.04' Sheer correction ... 18.87' Round of Beam correction ... 2.24' Correction for Thickness of Deck amidships ... 3.41' Other corrections, scantlings, etc. 62.22' Summer Freeboard = 272.75'	112.51' 126.00' 82.8' 28.6.45' + 146.75' 272.75'
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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 ... **18"**
 Fresh Water Line " " ... **9\frac{1}{2}"**
 Tropical Line " " ... **8\frac{1}{2}"**
 Winter Line below " " ... **8\frac{1}{2}"**
 Winter North Atlantic Line " " ... **-**
 Tropical Fresh Water Freeboard ... **21'-8\frac{3}{4}"**
 Fresh Water " " ... **21'-2\frac{3}{4}"**
 Tropical " " ... **22'-0\frac{1}{4}"**
 Winter " " ... **23'-5\frac{1}{4}"**
 Winter North Atlantic " " ... **-**

Norhval

YARD No 388

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.



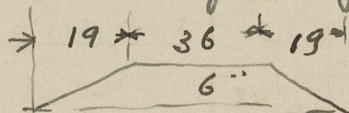
Sliding apt.

1	17.25	1	17.25
2	8.00	4	32.00
3	2.80	2	5.60
4	.30	4	1.20
5	0	1	-
			56.05
			$\times \frac{1}{3} \times 28.44$
			531.3 c.f.
			$\times 18$
			9564 c.f.

$$\text{Area of deck} = 535.75 \times 74 \times .85 = 33690 \text{ s.f.}$$

$$\therefore \text{correction for loss of buoyancy} = \frac{9564}{33690} = .284' = 3.41''$$

Cambs



$$\text{Mean height} = \frac{6(36+19)}{74} = 4.46''$$

$$\therefore \text{Equivalent camber} = 4.46 \times 15 = 6.69''$$

Trade of ship WHALE - OIL FACTORY.

Names of sister ships S/S. "SOUTHERN VENTURER". FURNESS S.B.C. LTD YARD N: 387 (BRIT. CORP.)

Builder's name and yard number FURNESS S.B.C. LTD YARD N: 388.

Owners NORWEGIAN SHIPPING & TRADES MISSION.

Fee £ WILL BE CHARGED ON FIRST ENTRY REPORT.



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Foundation