

Amended Computation due to amended
particulars of displacement and sheer.

BT 0074

Index. No. 35619.
(For London Office only).

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

JUN 15 1938

Ship's Name "OPALIA"	Official Number 166453	Nationality and Port of Registry BRITISH. LONDON.	Gross Tonnage 6195	Date of Build May 1938	Port of Survey Amsterdam
Moulded Dimensions: Length 426'-0" Breadth 54'-3" Depth 31'-0"					Date of Survey Whilst Building 13/4-38
Moulded displacement at moulded draught = 85 per cent. of moulded depth 13448 tons OR: 13330 M³ ✓					Surveyor's Signature H. P. Jones C. H. Heenwisse
Coefficient of fineness for use with Tables .773					Particulars of Classification + 100 A1 Contemplated Carrying Petroleum in bulk

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... 31'-0"	(a) Where D is greater than Table depth (D - Table depth) R = (31.06 - 28.40) 3 = 7.98" ✓	Moulded Breadth (B) 54'-3"
Stringer plate ... 26"	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = 1.66 ✓	Standard Round of Beam = $\frac{B \times 12}{50} =$ 13.02"
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures ✓	Ship's Round of Beam = 13 1/2"
Depth for Freeboard (D) = 31.06		Difference Excess = 48"
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) =$ 48(.5509) = -14.90"

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed SEE SKETCH	90.56	90.56	7'-6"	✓	90.56
.. overhang ...			+ 2 1/2" WOOD DECK		
R.Q.D. enclosed					
.. overhang	40.87	40.87	7'-6"	✓	40.87
Bridge enclosed SEE SKETCH	38'-0"				
.. overhang aft ...					
.. overhang forward	56.03	56.03	7'-6"	✓	56.03
Fore enclosed SEE SKETCH	48'-3 1/4"		2 1/2" WOOD DECK		
.. overhang ...					
.. forward ...					
Tonnage opening aft ...					
.. forward					
Total ...	187.46	187.46			187.46

Standard Height of Superstructure **7.5'** ✓
" " R.Q.D. ✓
Deduction for complete superstructure **42.00"**
Percentage covered $\frac{S}{L} =$ **44.01**
" " $\frac{S_1}{L} =$ **44.01** ✓
" " $\frac{E}{L} =$ **44.01** ✓
Percentage from Table, Line A. **Tanker** **35.01** ✓
(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 X .3501 = -14.90** ✓

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate INCHES	Effective Ordinate	S	M	Product
A.P. ...	52.60"	1		52.60	53.58	53.63	1		53.63
1/4 L from A.P. ...	23.405	4		93.62	23.78	23.88	4		95.52
3/8 L " ...	5.785	2		11.57	6 1/4	6.25	2		12.50
Amidships ...	-	4		-	0	-	4		-
3/8 L from F.P. ...	11.57	2		23.14	11 3/4	11.75	2		23.50
1/4 L " ...	46.81	4		187.24	47.18	47.13	4		188.52
F.P. ...	105.20	1		105.20	107.88	107.88	1		107.88
Total ...				473.34	107.88	107.88			481.55

Mean actual sheer aft = **Excess**
Mean standard sheer aft = **Excess**
Mean actual sheer forward = **Excess**
Mean standard sheer forward = **Excess**
Length of enclosed superstructure forward of amidships = **Tanker**
" " aft of " = **Tanker**

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) =$ **8.18(.75-22.00) = -14.90**
If limited on account of midship superstructure. ✓
If limited to maximum allowance of 1 1/2 ins. per 100 ft. ✓

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)	68.90
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient	73.61
Depth to Freeboard Deck = 31.06	$\Delta =$ 13078 tons.	7734.68	
Summer freeboard = 5.54	Tons per inch immersion at summer load water line	1.36	
Moulded draught (d) = 25.52	$T =$ 47.6	1.453	
Deduction for Tropical freeboard and addition for	Deduction = $\frac{\Delta}{40T}$ inches	7.98	
Winter freeboard = $\frac{d}{4}$ inches = 6.38 = 6 1/2"	= 6.87	-	
Addition for Winter North Atlantic Freeboard (if required) = 6.38 + 4.26 = 10.64 = 10 3/4"	= 6 3/4"	14.90	
		.24	
		.07	
		-	
		-	
		7.98	
		15.01	
		- 7.03	
		Summer Freeboard = 66.58	

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:

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Tropical Fresh Water Line above Centre of Disc ...	13 1/4"	Tropical Fresh Water Freeboard ...	5'-6 1/2"
Fresh Water Line " " ...	6 3/4"	Fresh Water " " ...	4'-5 1/4"
Tropical Line " " ...	6 1/2"	Tropical " " ...	4'-11 1/4"
Winter Line below " " ...	6 1/2"	Winter " " ...	5'-0"
Winter North Atlantic Line " " ...	10 3/4"	Winter North Atlantic " " ...	6'-1"

RECEIVED 9 JUL 1938

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Opalia

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.

At moulded draught of 25'-6 1/4". Displacement = 13078 tons.

At moulded draught of 25'-6 1/4" Displacement per inch = 47.6 tons.

Poop 91.83

$$\frac{88.06}{5.81} \times \frac{2}{3} = \frac{88.06}{90.56} \text{ equiv.}$$

Bridge 42.30

$$\frac{38.00}{4.30} \times \frac{2}{3} = \frac{38.00}{40.89} \text{ equiv.}$$

Forecastle

$$\frac{18.58 \times 15.09}{25.91} = \frac{66.85}{56.03}$$

Trade of ship Ocean Trade

Names of sister ships M.V. "Ocana", M.V. "Okula"; M.V. "Onoba"

Builder's name and yard number Nederlandsche Dok Mij v.v. Yard N° 67.

Owners Anglo-Saxon Petroleum Comp.

Fee £204.-

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Moulded depth

Stringer plate

Sheathing on e

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De

Poop enclose

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R.Q.D. enclo

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Bridge enclo

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overh

F'cle enclose

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Trunk aft

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Tonnage op

Total

Station

A.P. ...

1/4 L from A.P.

3/8 L ..

Amidships

3/8 L from F.P.

1/4 L ..

F.P. ...

Total

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If limited

Deduction

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