

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>"OPALIA"</b>	Official Number <b>166453</b>	Nationality and Port of Registry <b>BRITISH LONDON</b>	Gross Tonnage <del>76200</del> <b>6195.18</b>	Date of Build <b>1930</b>	Port of Survey <b>Amsterdam</b>
Moulded Dimensions: Length <b>426'-0"</b> Breadth <b>54'-3"</b> Depth <b>31'-0"</b>					Date of Survey <b>Whilst building '38</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>13095</b> tons					Surveyor's Signature <b>C.H. Meunier</b>
Coefficient of fineness for use with Tables <b>.753</b>					Particulars of Classification <b>+100A1</b> <i>contemplated carrying petroleum in bulk</i>

<b>Depth for Freeboard (D).</b> Moulded depth ... <b>31'-0"</b> Stringer plate ... <b>0'-6 1/2"</b> Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$ Depth for Freeboard (D) = <b>31.06</b>	<b>Depth correction.</b> (a) Where D is greater than Table depth (D - Table depth) R = <b>(31.06 - 28.40) 3 = +7.98"</b> (b) Where D is less than Table depth (if allowed) (Table depth - D) R = If restricted by superstructures	<b>Round of Beam correction.</b> Moulded Breadth (B) <b>54'-3"</b> Standard Round of Beam = $\frac{B \times 12}{50} =$ <b>13.02</b> Ship's Round of Beam = <b>13 1/2"</b> Difference <b>.48 excess</b> Restricted to Correction = $\frac{\text{Diff}^*}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.48}{4} (5509) = -.07"$
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## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed <i>EQUIVALENT</i>	<b>90.56</b>	<b>90.56</b>	<b>7'-6"</b>		<b>90.56</b>
.. overhang ...	<b>28'-0 1/4"</b>		<b>2 1/2" wood deck</b>		
R.Q.D. enclosed					
.. overhang	<b>40.87</b>	<b>40.87</b>	<b>7'-6"</b>		<b>40.87</b>
Bridge enclosed <i>EQUIVALENT</i>	<b>38'-0"</b>				
.. overhang aft					
.. overhang forward	<b>56.03</b>	<b>56.03</b>	<b>7'-6"</b>		<b>56.03</b>
Fore enclosed <i>EQUIVALENT</i>	<b>48'-3 1/4"</b>		<b>2 1/2" wood deck</b>		
.. overhang					
Trunk aft					
.. forward					
Tonnage opening aft					
.. forward					
Total	<b>187.46</b>	<b>187.46</b>			<b>187.46</b>

Standard Height of Superstructure	<b>7.5</b>
.. R.Q.D.	<b>42"</b>
Deduction for complete superstructure	
Percentage covered $\frac{S}{L} =$	<b>44.01</b>
.. $\frac{S_1}{L} =$	<b>44.01</b>
.. $\frac{E}{L} =$	<b>44.01</b>
Percentage from Table, Line A. Tanker	<b>35.01</b>
(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 = $42 \times .3501 =$	<b>-14.70"</b>

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<b>52.60</b>	<b>1</b>	<b>52.60</b>	<b>57.84</b>	<b>57.84</b>	<b>57.84</b>	<b>1</b>	<b>57.84</b>	<b>57.84</b>
1/2 L from A.P. ...	<b>23.405</b>	<b>4</b>	<b>93.62</b>	<b>24.12</b>	<b>24.12</b>	<b>24.12</b>	<b>4</b>	<b>96.48</b>	<b>96.48</b>
3/8 L ..	<b>5.785</b>	<b>2</b>	<b>11.57</b>	<b>6.36</b>	<b>6.36</b>	<b>6.36</b>	<b>2</b>	<b>12.72</b>	<b>12.72</b>
Amidships ...		<b>4</b>					<b>4</b>		
3/8 L from F.P. ...	<b>11.57</b>	<b>2</b>	<b>23.14</b>	<b>14.16</b>	<b>14.16</b>	<b>14.16</b>	<b>2</b>	<b>28.32</b>	<b>28.32</b>
1/2 L ..	<b>46.81</b>	<b>4</b>	<b>187.24</b>	<b>47.28</b>	<b>47.28</b>	<b>47.28</b>	<b>4</b>	<b>189.12</b>	<b>189.12</b>
F.P. ...	<b>105.20</b>	<b>1</b>	<b>105.20</b>	<b>109.68</b>	<b>109.68</b>	<b>109.68</b>	<b>1</b>	<b>109.68</b>	<b>109.68</b>
Total			<b>473.37</b>					<b>494.16</b>	

Mean actual sheer aft = **excess**  
 Mean standard sheer aft

Mean actual sheer forward = **excess**  
 Mean standard sheer forward

Length of enclosed superstructure forward of amidships =  
 .. aft of .. = **Tanker**

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{20.79}{18} \left( .75 - \frac{2200}{5500} \right) = -.61"$   
 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 = **31.06**  
 Summer freeboard = **5.44**  
 Moulded draught (d) = **25.62**

## Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = **6.41 = 6 1/2"**

Addition for Winter North Atlantic Freeboard (if required) = **6.41 + 4.26 = 10.67 = 10 3/4"**

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$  **13164**

Tons per inch immersion at summer load water line

$T =$  **47.60**

Deduction =  $\frac{\Delta}{40T}$  inches

= **6.91**

= **7"**

## TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient  $\frac{.7534-.68}{1.36} = \frac{.1433}{1.36}$

Depth Correction ... **7.98**

Deduction for superstructures ... **14.70**

Sheer correction ... **.61**

Round of Beam correction ... **.07**

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc. ...

**68.90**  
**72.60**

**7.98** **15.38** **- 7.40**  
**Summer Freeboard = 65.20**

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

Tropical Fresh Water Line above Centre of Disc ... **13 1/2"**  
 Fresh Water Line " " ... **7"**  
 Tropical Line " " ... **6 1/2"**  
 Winter Line below " " ... **6 1/2"**  
 Winter North Atlantic Line " " ... **10 3/4"**

Tropical Fresh Water Freeboard ... **5'-5 1/4"**  
 Fresh Water " " ... **4'-3 1/4"**  
 Tropical " " ... **4'-10 1/4"**  
 Winter " " ... **4'-10 3/4"**  
 Winter North Atlantic " " ... **6'-4"**

22 APR 1938



*Opalio*

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'-5 1/4", Displacement = 1305 7/8 tons  
At moulded draught of 25'-5 1/4", Displacement per inch = 47,595 tons.

Loop  $\frac{91.83}{88.02} \div \frac{3.81 \times \frac{2}{3}}{2.54} = \frac{88.02}{90.56} \text{ equiv}$

Bridge  $\frac{42.30}{38.00} \div \frac{4.30 \times \frac{2}{3}}{2.87} = \frac{38.00}{40.87} \text{ equiv}$

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. "Ophula", M.V. "Onaba"*

Builder's name and yard number *Nederlandsche Dok-Maatschappij N.V. Yard N° 67*

Owners *Anglo Saxon Petroleum Comp.*

Fee *£204.-*



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Lloyd's Register  
Foundation

Rpt. C.1

Ship's

Official

Nation

Dispos

Poop Bul

Raised Q

Bridge, A

Bridge, F

Forecastle

Trunk, A

Trunk, F

Exposed

board o

Exposed M

structur

Machinery

tures no

Applian

Deckhouse

Poop Bul

Raised Q

Bridge, A

Bridge, F

Forecastle

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board o

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tures no

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Deckhouse

10m 3.37 T