

Rpt. C.11 (Comp.)

# LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

## SURVEYS FOR FREEBOARD

(COMPUTATION FOR ~~STEAMER, SAILING SHIP, TANKER~~ **TANKER**)

For LONDON OFFICE ONLY

Received 28 MAR 1957

Index No.

Govt. Copy

Owners C11

Ship's Name <b>"ESSO WANDSWORTH"</b>	Official Number <b>184594</b>	Nationality and Port of Registry <b>BRITISH LONDON.</b>	Gross Tonnage <b>4352</b>	Date of Build <b>1943</b>	Port of Survey <b>SOUTH SHIELDS</b>
Moulded Dimensions: Length <b>355.0'</b> Breadth <b>60.0'</b> Depth <b>17.5'</b>					Date of Survey <b>DURING CLASSIFICATION.</b>
Freeboard Length <b>355.0' TO CENTRE OF RUDDER STOCK</b>					Surveyor's Signature <b>J.D.B. Dugdale</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth (excluding bossing) <b>(FROM DISPLACEMENT SCALE)</b> <del>4420</del> <b>7090</b> tons					Particulars of Classification <b>100 A1</b>
Coefficient of fineness for use with Tables <b>.850</b>					<b>CARRYING PETROLEUM IN BULK. (CLASS CONTEMPLATED)</b>

DEPTH FOR FREEBOARD (D).		DEPTH CORRECTION.		ROUND OF BEAM CORRECTION.	
Moulded depth ... ..	<b>17.5'</b>	(a) Where D is greater than Table depth (D-Table depth) R =		Moulded Breadth (B)	<b>60.0'</b>
Stringer plate ... ..	<b>.50"</b>			Standard Round of Beam = $\frac{B \times 12}{50}$	<b>14.40"</b>
Wood Sheathing on exposed deck		(b) Where D is less than Table depth (if allowed) (Table depth-D) R =		Ship's Round of Beam (SEE SKETCH)	<b>15.56"</b>
$T \left( \frac{L-S}{L} \right) =$	<b>NONE</b>	<b>(23.67-17.54) 2.731 = -16.74</b>		Difference	<b>1.16"</b>
Depth for Freeboard (D) =	<b>17.54</b>	<b>6.13</b>		Restricted to	
		If restricted by superstructures		Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S}{L} \right)$	<b>= <math>\frac{1.16}{4} (1 - \frac{31.43}{68.57}) = -.09"</math></b>

DEDUCTION FOR SUPERSTRUCTURES.				
	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Effective Length (L)
Poop enclosed (See Sketch)	<b>86.33</b>	<b>86.33</b>	<b>8.0"</b>	<b>86.33</b>
" overhang ... ..				
R.Q.D. enclosed ... ..				
" overhang ... ..				
Bridge enclosed ... ..				
" overhang aft ... ..				
" overhang forward ... ..				
Fore enclosed (See Sketch)	<b>38.08</b>	<b>38.08</b>	<b>8.0"</b>	<b>38.08</b>
" overhang ... ..	<b>3.83</b>	<b>1.92</b>		<b>1.92</b>
Trunk aft ... ..		<b>117.11</b>	<b>8.0"</b>	<b>117.11</b>
" forward ... ..			<b>77.05</b>	
Tonnage opening aft ... ..				
" forward ... ..				
Total ... ..	<b>128.24</b>	<b>243.44</b>		<b>243.44</b>

Standard Height of Superstructure **7.05'**

R.Q.D. ... ..

Deduction for complete superstructure **39.00"**

Percentage covered  $\frac{S}{L} = \frac{36.12}{68.57} = 68.57\%$

Percentage from Table, Line A Tanker = **61.43** (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 = **39.00 x .6143 = 23.96"**

SHEER CORRECTION.							
Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P. ... ..	<b>45.50</b>	<b>1</b>	<b>45.50</b>	<b>12"</b>	<b>23.40</b>	<b>1</b>	<b>23.40</b>
1/2 L from A.P. ... ..	<b>20.25</b>	<b>4</b>	<b>81.00</b>	<b>0</b>	<b>0.61</b>	<b>4</b>	<b>2.44</b>
1/2 L " ... ..	<b>5.00</b>	<b>2</b>	<b>10.00</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>
Amidships ... ..	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>
1/2 L from F.P. ... ..	<b>10.01</b>	<b>2</b>	<b>20.02</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>
1/2 L " ... ..	<b>40.49</b>	<b>4</b>	<b>161.96</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>
F.P. ... ..	<b>91.00</b>	<b>1</b>	<b>91.00</b>	<b>14.12"</b>	<b>12.00</b>	<b>1</b>	<b>12.00</b>
Total ... ..			<b>409.48</b>				<b>37.84</b>

Correction =  $\frac{\text{Difference between sums of products}}{18} = \frac{37.84 - 409.48}{18} = -21.58$

If limited on account of midship superstructure.

Mean actual sheer aft = **11.40"**

Mean standard sheer aft = **7.05"**

Mean actual sheer forward = **0.95"**

Mean standard sheer forward = **0.95"**

Length of enclosed superstructure forward of amidships = **11.76"**

" " aft of " = **11.76"**

Actual height of Poop = **8.00**

Standard " = **7.05**

Excess = **0.95**

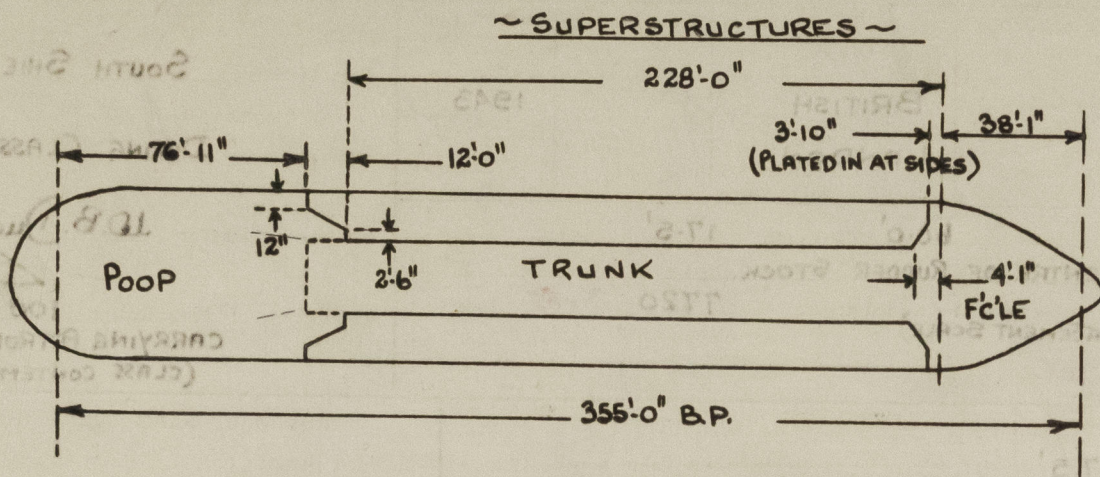
Deficient = **11.40"**

Deduction for Tropical Freeboard.		Deduction for Fresh Water.		TABULAR FREEBOARD corrected for Fresh Deck (if required)	
Addition for Winter and Winter North Atlantic Freeboard.		Displacement in salt water at summer load water line	<b>7803</b>	Correction for coefficient	<b>52.40</b>
Depth to Freeboard Deck = <b>17.54</b>		$\Delta =$ (see over)		<b>1.36</b>	<b>58.95</b>
Summer freeboard = <b>2.50</b>		Tons per inch immersion at summer load water line	<b>4671</b>	Depth Correction	<b>16.74</b>
Moulded draught (d) = <b>15.04</b>		Deduction = $\frac{\Delta}{40 T}$ inches	<b>4.18"</b>	Deduction for superstructures	<b>23.96</b>
Keel allowance =			<b>4.14"</b>	Sheer correction	<b>11.76</b>
Extreme draught =				Round of Beam correction	<b>0.09</b>
Deduction for Tropical freeboard and addition for =				Correction for Thickness of Deck amidships	
Winter freeboard = $\frac{d}{4}$ inches = <b>3.76 = 3 3/4</b>				Other corrections, scantlings, etc.	
Addition for Winter North Atlantic Freeboard (if required) = <b>3.76 + 3.55 = 7.31 = 7 1/4</b>					

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-			
Tropical Fresh Water Line above Centre of Disc	...	<b>8"</b>	Tropical Fresh Water Freeboard
Fresh Water Line	"	<b>4 1/4"</b>	Fresh Water
Tropical Line	"	<b>3 3/4"</b>	Tropical
Winter Line	below	<b>3 3/4"</b>	Winter
Winter North Atlantic Line	"	<b>7 1/4"</b>	Winter North Atlantic



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.



Equivalent length of Poop  
 Length at side = 76.92  

$$\frac{(36.08 + 58) \times \frac{12}{2}}{60} = \frac{9.41}{86.33}$$

Equivalent length of Trunk  

$$= (228 - 1.92) \times \frac{31.08}{60} = 117.11'$$

Sheers Aft  

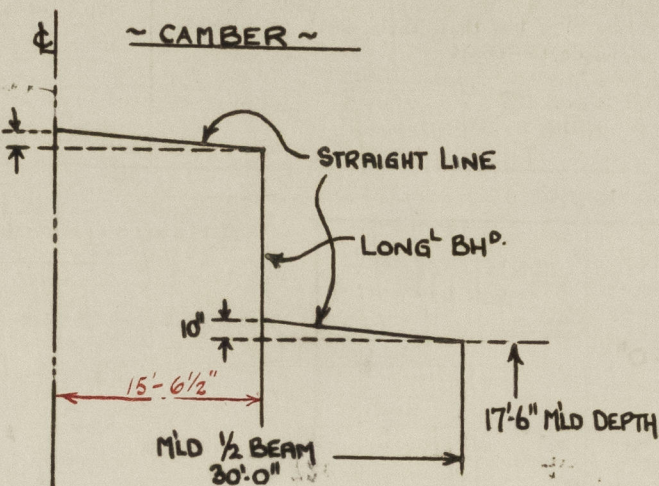
$$\frac{1}{6} = \frac{355}{6} = 59.17$$

Excess height of poop = 8 - 7.05 = .95  
 = 11.4"  
 Allowed sheers at AP = 12" + 11.4" = 23.4"  

$$\frac{1}{6} = \frac{11.4 \times 17.75^2}{76.92^2} = 0.61"$$

Equivalent camber  

$$= \frac{3}{4} \times 10 \times 30 = 15.56"$$



~ HYDROSTATICS ~ (FROM Δ & DEADWEIGHT TABLE)

DRAUGHT	Δ SW	T.P.I.
16'-0"	8350	47.0
15'-0"	7780	46.7
14'-0"	7200	46.4
	510	
	7710	
	7722	
	7689	

Trade of ship INTERNATIONAL TANKER

Names of sister ships "ESSE LAMBETH" - "ESSE CHELSEA" & "ESSE FULHAM" SIMILAR.

Builder's name and yard number BARNES DULUTH SHIPBUILDING COMPANY.

Owners ESSO PETROLEUM CO LTD.

Fee £ 38 : 0 : 0  
 (TO BE CHARGED WITH F.E.)

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

AVAILABLE PLANS FORWARDED WITH REPORT CII  
 FOR "ESSE CHELSEA".



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