

# LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

## SURVEYS FOR FREEBOARD

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

For LONDON OFFICE ONLY

Received .....

Index No. ....

Govt. Copy .....

Owners C11 .....

Ship's Name <b>" ESSO LIVERPOOL "</b>	Official Number <b>300999</b>	Nationality and Port of Registry <b>British</b> <b>London</b>	Gross Tonnage <b>23,120</b> <b>Tons</b>	Date of Build <b>1958-59</b>	Port of Survey <b>TRIESTE</b>
C.R.D.A. YARD N°. 1841 <i>in ESSO EL SALVADOR</i>					Date of Survey <b>During Construction</b>
Moulded Dimensions: Length <b>660'</b> ✓ Breadth <b>90'</b> ✓ Depth <b>47'</b> ✓					Surveyor's Signature <i>[Signature]</i>
Freeboard Length .....					Particulars of Classification <b>+100 A1</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>54435</b> tons (excluding bossing)					Carrying Petroleum in bulk
Coefficient of fineness for use with Tables <b>.803</b>					Class Contemplated

DEPTH FOR FREEBOARD (D).		DEPTH CORRECTION.		ROUND OF BEAM CORRECTION.	
Moulded depth ... ..	<b>47'</b> ✓	(a) Where D is greater than Table depth (D-Table depth) R =		Moulded Breadth (B)	<b>90'</b>
Stringer plate ... ..	<b>1.34"</b> <b>.112"</b>	(47.11 - 44.0) 3.0 = <b>9.33"</b>		Standard Round of Beam = $\frac{B \times 12}{50}$	<b>21.6</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	<b>22"</b>
$T \left( \frac{L-S}{L} \right) =$				Difference	<b>0.40"</b>
Depth for Freeboard (D) =	<b>47.11</b>	If restricted by superstructures ✓		Restricted to	
				Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left( 1 - \frac{S_1}{L} \right)$	<b>.40 (1 - .4299) = .06"</b>

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed <i>equiv...</i>	146.51	146.51	8.5'	✓	146.51
" overhang ... ..					
R.Q.D. enclosed ... ..					
" overhang ... ..					
Bridge enclosed <i>equiv...</i>	49.80	49.80	8.5"	✓	49.80
" overhang aft ... ..					
" overhang forward ... ..					
Fore enclosed <i>equiv...</i>	86.29	86.29	8'	✓	86.29
" overhang ... ..	2.21	1.11	8.0	✓	1.11
Trunk aft ... ..					
" forward ... ..					
Tonnage opening aft ... ..					
" " forward ... ..					
Total ... ..	284.81	283.71			283.71

Standard Height of Superstructure **7'-6"**

" " R.Q.D. ✓

Deduction for complete superstructure **42.00"**

Percentage covered  $\frac{S}{L} = 43.15$

" "  $\frac{S_1}{L} =$

" "  $\frac{E}{L} =$  } **42.99**

Percentage from Table, ~~Line A~~ **Tanker** **33.99**  
(corrected for absence of fore-castle (if required))

Percentage from Table, ~~Line B~~ **Tanker**  
(corrected for absence of fore-castle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = **42.0 × .3399 = 14.28"**

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ... ..	76.00	1		76.00	18.54"	52.54	1		52.54
$\frac{1}{2}$ L from A.P. ... ..	33.82	4		135.28	1.77"	16.81	4		67.24
$\frac{3}{8}$ L " ... ..	8.36	2		16.72	0.00"	0	2		
Amidships ... ..	0	4		0	0	0	4		0
$\frac{3}{8}$ L from F.P. ... ..	16.72	2		33.44	0.00"	0	2		0
$\frac{1}{2}$ L " ... ..	67.64	4		270.56	2.52"	2.52	4		10.08
F.P. ... ..	152.00	1		152.00	22.00"	47.25	1		47.25
Total ... ..				684.00					177.11

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{506.89}{18} \left( .75 - .2158 \right) = 15.05"$

If limited on account of midship superstructure.

Mean actual sheer aft =

Mean standard sheer aft =

Mean actual sheer forward =

Mean standard sheer forward =

Length of enclosed superstructure forward of amidships =

" " aft of " =

Deficient

Tanker  
Deficient sheers

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

Ft.  
Depth to Freeboard Deck = **47.11**  
Summer freeboard = **11.68**  
Moulded draught (d) = **35.43**  
Keel allowance =  
Extreme draught =  
Deduction for Tropical freeboard and addition for =

Winter freeboard =  $\frac{d}{4}$  inches = **8.86 = 8 $\frac{3}{4}$ "**

Addition for Winter North Atlantic Freeboard (if required) = **8.86 + 6.60 = 15.46 = 15 $\frac{1}{2}$ "**

Deduction for Fresh Water.

Displacement in salt water at summer load water line  
 $\Delta = 47,870$   
Tons per inch immersion at summer load water line  
 $T = 121.77$   
 $\Delta T = 120.36$   
Deduction =  $\frac{\Delta}{40 T}$  inches  
= **9.88"**  
= **10"**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient  $\frac{.803 + .68}{1.36} = \frac{1.483}{1.36}$

Depth Correction ... ..

Deduction for superstructures ... ..

Sheer correction ... ..

Round of Beam correction ... ..

Correction for Thickness of Deck amidships ... ..

Other corrections, scantlings, etc. ... ..

**119.30**  
**130.09**

	+	-
Depth Correction	9.33	✓
Deduction for superstructures	✓	14.28
Sheer correction	15.05	✓
Round of Beam correction	✓	.06
Correction for Thickness of Deck amidships	✓	
Other corrections, scantlings, etc.		
	24.38	14.34

Summer Freeboard = **140.15"**SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~ Steel, Deck :-

Tropical Fresh Water Line above Centre of Disc	...	<b>18<math>\frac{1}{4}</math>"</b>
Fresh Water Line	"	<b>10"</b>
Tropical Line	"	<b>8<math>\frac{3}{4}</math>"</b>
Winter Line	below	<b>8<math>\frac{3}{4}</math>"</b>
Winter North Atlantic Line	"	<b>15<math>\frac{1}{2}</math>"</b>

Tropical Fresh Water Freeboard

Fresh Water

Tropical

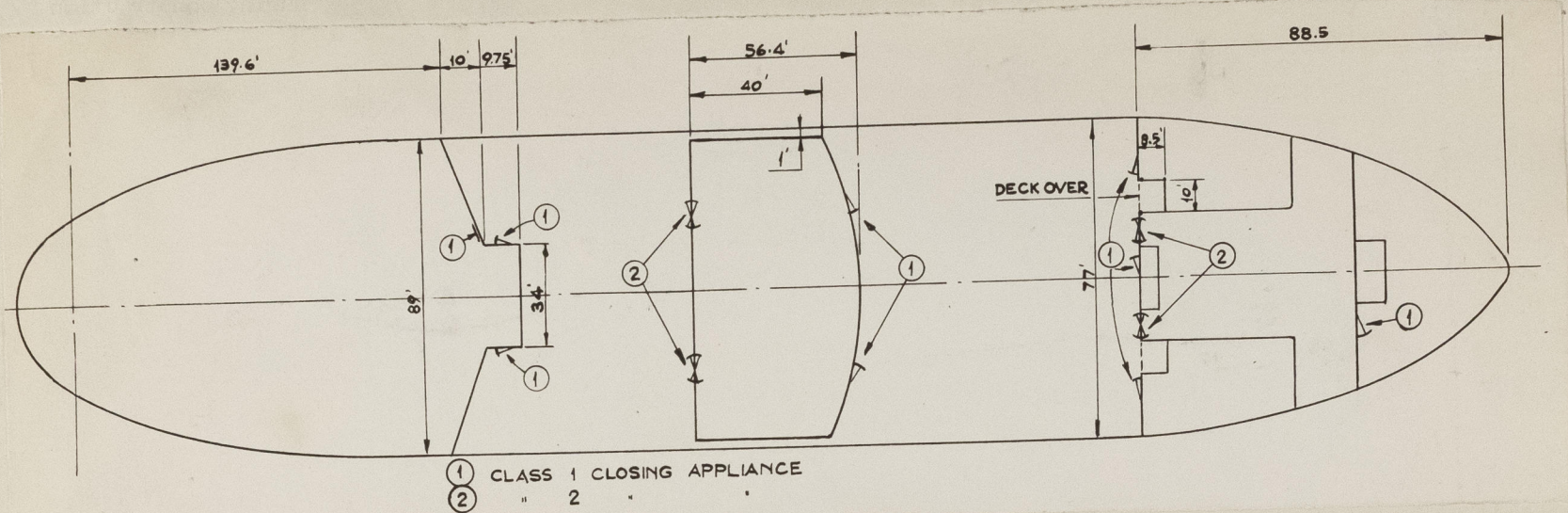
Winter

Winter North Atlantic

**11' - 8 $\frac{1}{4}$ "**  
**10' - 1 $\frac{1}{2}$ "**  
**10' - 10 $\frac{1}{4}$ "**  
**10' - 11 $\frac{1}{2}$ "**  
**12' - 5"**  
**11' - 11 $\frac{3}{4}$ "**

# Esso Liverpool.

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.



## POOP.

$$\text{Equiv. length} = 139.6' + \frac{6.91 \times 10}{89} = 146.51'$$

## BRIDGE.

$$\text{Equiv length} = \left\{ 40 + \frac{2}{3} \times 16.4 \right\} \times \frac{88}{90} = 49.80'$$

## FO'LSLE

$$\text{Equiv. length} = 88.5 - \frac{2.21 \times 10 \times 8.5 \times 2}{77} = 86.29'$$

O/H

$$= 2.21$$

## Sheers Aft.

$$\text{At A.P.} = 18.54 + (10'-4" - 7'-6") = 52.54"$$

$$\text{At } \frac{L}{6} = 1.77" + 14.5" + 12 \left( \frac{29.6}{139.6} \right)^2 = 16.81"$$

## Sheers For'd.

$$\text{At F.P.} = 22.00 + (13'-11\frac{1}{4}" - 11'-10") = 47.25"$$

Trade of ship Oil Tanker

Names of sister ships SIMILAR ("ESSO SOUTHAMPTON") (C.R.D.A. YARD No. 1839) - "ESSO COVENTRY" (C.R.D.A. YARD No. 1840)

Builder's name and yard number C.R.D.A. MONFALCONE YARD No. 1841

Owners Esso Petroleum Co. Ltd. - London

Fee £ : :

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

Midship Section  
Decks & profile



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