

PRELIMINARYIndex No. 41809
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name Ser James Laing's Yard No. 789/800

Official Number _____ Nationality and Port of Registry _____ Gross Tonnage _____ Date of Build _____

Port of Survey _____

Date of Survey 14/3/49

Surveyor's Signature A. K. Howard

Particulars of Classification +100A1
carrying Petroleum in bulk

Moulded Dimensions: Length 491'-0" Breadth 69'-6" Depth 40'-6"

Moulded displacement at moulded draught = 85 per cent. of moulded depth _____ tons

Coefficient of fineness for use with Tables .766 (Est.)

DEPTH FOR FREEBOARD (D).

Moulded depth 40.5

Stringer plate $\frac{3}{4}"$ 06

Sheathing on exposed deck
 $T \left(\frac{L-S}{L} \right) =$ ✓

Depth for Freeboard (D) = 40.56

DEPTH CORRECTION.

(a) Where D is greater than Table depth
(D-Table depth) R =
 $(40.56 - 32.73)^3 = 23.49$ no

(b) Where D is less than Table depth (if allowed)
(Table depth-D) R =

If restricted by superstructures

ROUND OF BEAM CORRECTION.

Moulded Breadth (B) 69.5

Standard Round of Beam = $\frac{B \times 12}{50} =$ 16.68

Ship's Round of Beam = 17.34

Difference .66

Restricted to

Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) =$.66 \times .6379 = .11

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	<u>104.33</u>	<u>104.33</u>	<u>7'-9"</u>	<u>✓</u>	<u>104.33</u>
" overhang	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
R.Q.D. enclosed	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
" overhang	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Bridge enclosed	<u>37.97</u>	<u>37.97</u>	<u>7'-6"</u>	<u>✓</u>	<u>37.97</u>
" overhang aft	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
" overhang forward	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
F'cle enclosed	<u>35.50</u>	<u>35.50</u>	<u>7'-6"</u>	<u>✓</u>	<u>35.50</u>
" overhang	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Trunk aft	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
" forward	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Tonnage opening aft	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
" " forward	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total	<u>177.80</u>	<u>177.80</u>			<u>177.80</u>

Standard Height of Superstructure 7.50

" " R.Q.D. ✓

Deduction for complete superstructure 42.00

Percentage covered $\frac{S}{L} =$ 36.21

" " $\frac{S_1}{L} =$ 36.21

" " $\frac{E}{L} =$ 36.21

Percentage from Table, Line Tanker = 27.21 ✓
(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 = 42.00 \times .2721 = 11.43 ✓

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>59.10</u>	1		<u>59.10</u>	<u>36.0</u>	<u>36.0</u>	1		<u>36.0</u>
$\frac{1}{2}$ L from A.P.	<u>26.30</u>	4		<u>105.20</u>	<u>3.0</u>	<u>3.0</u>	4		<u>12.0</u>
$\frac{2}{3}$ L "	<u>6.50</u>	2		<u>13.00</u>	<u>✓</u>	<u>✓</u>	2		<u>✓</u>
Amidships	<u>✓</u>	4		<u>✓</u>	<u>✓</u>	<u>✓</u>	4		<u>✓</u>
$\frac{2}{3}$ L from F.P.	<u>13.00</u>	2		<u>26.00</u>	<u>✓</u>	<u>✓</u>	2		<u>✓</u>
$\frac{1}{2}$ L "	<u>52.60</u>	4		<u>210.40</u>	<u>2.5</u>	<u>2.5</u>	4		<u>10.0</u>
F.P.	<u>118.20</u>	1		<u>118.20</u>	<u>72.0</u>	<u>72.0</u>	1		<u>72.0</u>
Total				<u>531.90</u>					<u>130.0</u>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) =$ 401.9 / 18 = 22.33 1810 12.78

If limited on account of midship superstructure. TANKER

Mean actual sheer aft = Deficient

Mean standard sheer aft = Deficient

Mean actual sheer forward = Deficient

Mean standard sheer forward = Deficient

Length of enclosed superstructure forward of amidships = Tanker

" " aft of " = Tanker

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 = 40.56

Summer freeboard = 9.63

Moulded draught (d) = 30.93

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 7.73 = 7 $\frac{3}{4}$

Addition for Winter North Atlantic Freeboard (if required) = 7.73 + 4.91 = 12.64 = 12 $\frac{3}{4}$

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$

Tons per inch immersion at summer load water line

T =

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

= 7 $\frac{3}{4}$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient .68 + .766 = 1.446 1.36

Depth Correction 23.49

Deduction for superstructures 11.43

Sheer correction 12.78

Round of Beam correction11

Correction for Thickness of Deck amidships15

Other corrections, scantlings, etc. ✓

Summer Freeboard = 115.54

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

Tropical Fresh Water Line above Centre of Disc 1' - 3 $\frac{1}{2}$ " = 15 $\frac{1}{2}$ "

Fresh Water Line " " 7 $\frac{3}{4}$ "

Tropical Line " " 7 $\frac{3}{4}$ "

Winter Line below " " 7 $\frac{3}{4}$ "

Winter North Atlantic Line " " 1' - 0 $\frac{3}{4}$ " = 12 $\frac{3}{4}$ "

Tropical Fresh Water Freeboard 9 $\frac{1}{2}$ "

Fresh Water " 8 $\frac{1}{4}$ "

Tropical " 8 $\frac{1}{4}$ "

Winter " 10 $\frac{1}{4}$ "

Winter North Atlantic " 12 $\frac{3}{4}$ "

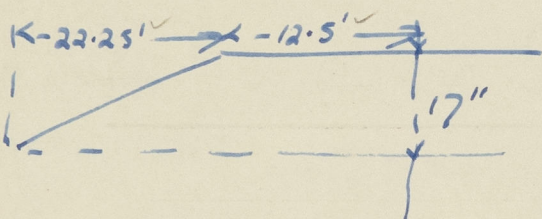
789/800.

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.

Block coeff at 85% of 89.0' = .762 ✓

$$\begin{aligned} \text{" " " " " 40.5' } &= \left[.85 \left(1 - \frac{39}{40.5} \right) \times \frac{.12}{.1} \right] + .762 \\ &= \left[.85 (1 - .963) \times .12 \right] + .762 \\ &= (.85 \times .037 \times .12) + .762 \\ &= .00377 + .762 \\ &= \underline{\underline{.766}} \checkmark \end{aligned}$$

Berm



$$\begin{aligned} R \text{ of } B &= \frac{(12.5 \text{ ft} \times 17 \text{ in}) + (11.125 \text{ ft} \times 17 \text{ in})}{34.75 \text{ ft}} \times \frac{3}{2} \\ &= \frac{17 \times \frac{28.625}{34.75} \times \frac{3}{2}}{1} \text{ in} \\ &= \underline{\underline{17.34 \text{ in}}} \checkmark \end{aligned}$$

Pop Equiv length = $101 + \frac{2}{3} \times 5 = \underline{\underline{104.33}} \checkmark$ O.H. = $3 - 3.33 = \underline{\underline{\text{No overhang}}} \checkmark$

Bulge let in 11" each side: - ✓

$$\begin{aligned} \text{equiv length} &= \left(33.0 + \frac{2}{3} \times 9 \right) \times \frac{67.67}{69.50} \\ &= 39 \times \frac{67.67}{69.50} \checkmark \\ &= \underline{\underline{37.97}} \checkmark \end{aligned}$$

Trade of ship

Names of sister ships

Builder's name and yard number

Owners

Fee £



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Foundation