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Rpt. C.11.

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

-2 NOV 1932

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Lancaster Hunt & R.O. 26

Port of Survey Istanbul

Date of Survey October 26th 1932.

Name of Surveyor J. L. Smith.

Particulars of Classification +100A.1
Carrying gen. in bulk - fitted for oil fuel
S.S. A/x. No. 32. F.P. above 150°F.

Ship's Name ZAHRA

Nationality and Port of Registry BRITISH
HONG KONG, London

Official Number 149944

Gross Tonnage 821

Date of Build 1924-11

Moulded Dimensions: Length 180-0 Breadth 33-75 Depth 14-0

Moulded displacement at moulded draught = 85 per cent. of moulded depth 1488 tons

Coefficient of fineness for use with Tables 721

Depth for Freeboard (D)

Moulded depth 14-00

Stringer plate 03

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

Depth for Freeboard (D) = 14-03

Depth correction

(a) Where D is greater than Table depth
(D-Table depth) R = (14-03 - 12-00) 1-385 = +2-81

(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) 33-75

Standard Round of Beam = $\frac{B \times 12}{50} =$ 8-10

Ship's Round of Beam = 8-5

Difference 40

Restricted to

Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{40^2}{4} \times .1574 =$ 02

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
overhang ...	<u>83-42</u>			<u>3-0</u>	
Q.D. enclosed ...	<u>83-40</u>	<u>83-42</u>	<u>3-0</u>	<u>3-53</u>	<u>70-90</u>
overhang ...					
Bridge enclosed...					
overhang aft ...					
overhang forward	<u>22-91</u>				
Fore enclosed ...	<u>24-0</u>	<u>22-91</u>	<u>6-9 ABOVE W. DECK</u> ✓		<u>22-91</u>
overhang ...	<u>1-9</u>	<u>13</u>	<u>4-0 ABOVE W. DECK</u> ✓		<u>13</u>
Trunk aft <u>7-33</u> ✓		<u>5-84</u>	<u>3-0</u>	<u>3-0</u>	<u>2-92</u>
forward <u>7-33</u> ✓	<u>70-7</u>	<u>39-35</u>	<u>3-0</u>	<u>3-0</u>	<u>19-67</u>
Tonnage opening aft ...					
forward ...					
Total ...	<u>106-59</u>	<u>151-65</u>			<u>116-53</u>

Standard Height of Superstructure 6-0

" " R.Q.D. 3-53

Deduction for complete superstructure 24-00

Percentage covered $\frac{S}{L} =$ 59-22%

" " $\frac{S_1}{L} =$ 84-26%

" " $\frac{E}{L} =$ 64-75%

Percentage from Table, Line A.
(corrected for absence of forecastle (if required))

Percentage from Table, Line B. TANKER 57-22%

(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = 24-00 × 57-22 = -13-73

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	28-00	1		28-00	<u>29</u>	<u>29-00</u>	1		29-00
1/4 L from A.P. ...	12-46	4		49-84	<u>11-8</u>	<u>11-65</u>	4		46-60
1/2 L " ...	3-08	2		6-16	<u>3-0</u>	<u>2-91</u>	2		5-82
Amidships ...	✓	4		✓	<u>0</u>	<u>✓</u>	4		✓
3/4 L from F.P. ...	6-16	2		12-32	<u>4-6</u>	<u>4-54</u>	2		9-08
1/2 L " ...	24-92	4		99-68	<u>18-4</u>	<u>18-17</u>	4		72-68
F.P. ...	56-00	1		56-00	<u>42</u>	<u>42-00</u>	1		42-00
Total ...				<u>252-00</u>					<u>205-18</u>

Mean actual sheer aft = Deficient

Mean standard sheer aft

Mean actual sheer forward = Deficient

Mean standard sheer forward

Length of enclosed superstructure forward of amidships = Def.

" " aft of " = Sheer

Correction = $\frac{\text{Difference between sums of products}}{18} \left(75 - \frac{S}{2L} \right) = \frac{46-82}{18} \times (75 - .2961) = +1-18$

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 = 14-03

Summer freeboard = 89

Moulded draught (d) = 13-14

Reduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 3-28 = 3 1/4

Addition for Winter North Atlantic Freeboard (if required) = 1-8 = 1 3/4

Deduction for Fresh Water.

Displacement in salt water at summer load water line $\Delta =$ 16-82

Tons per inch immersion at summer load water line $T =$ 12-0

Deduction = $\frac{\Delta}{T}$ inches = 3 1/2

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{721 + .68}{1-36} = \frac{1401}{1-36}$

	+	-
Depth Correction ...	<u>2-81</u>	✓
Deduction for superstructures ...	<u>✓</u>	<u>13-73</u>
Sheer correction ...	<u>1-18</u>	✓
Round of Beam correction ...	<u>✓</u>	<u>02</u>
Correction for Thickness of Deck amidships ...	<u>✓</u>	
Other corrections, scantlings, etc. ...	<u>✓</u>	
	<u>3-99</u>	<u>13-75</u>
Summer Freeboard =	<u>19-80</u>	<u>20-4</u>

Summer Freeboard = 19-80

SUMMER FREEBOARD amidships from Centre of

	to top of Deck Line, Wood, Steel, Deck
Tropical Fresh Water line above Centre of Dis	<u>3 3/4</u>
Fresh Water Line	<u>3 1/2</u>
Tropical Line	<u>3 1/4</u>
Winter Line below	<u>3 1/4</u>
Winter North Atlantic Line	<u>5 1/4</u>

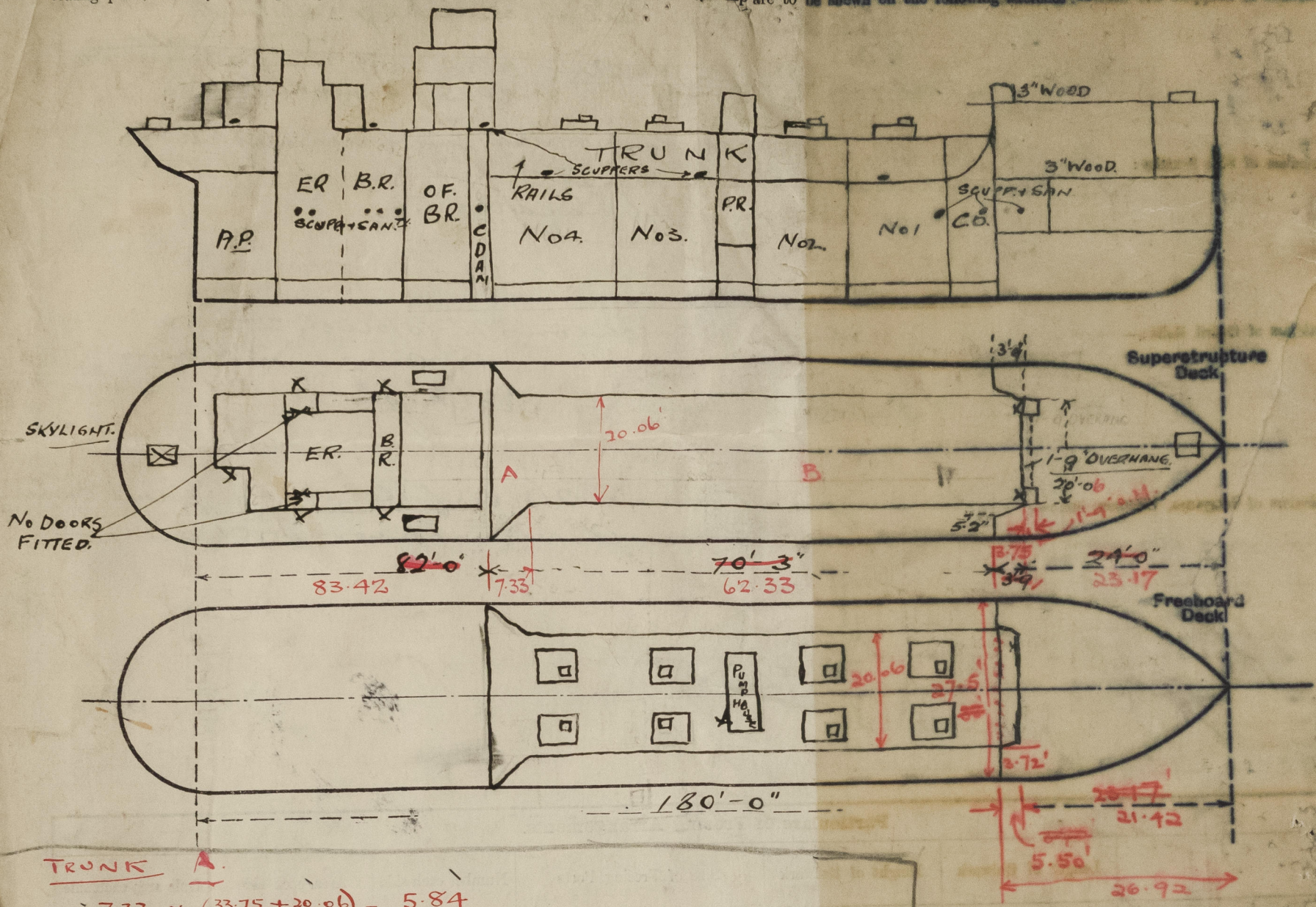
	to top of Deck Line, Wood, Steel, Deck
Tropical Fresh Water Freeboard	<u>0-4</u>
Fresh Water	<u>0-7 1/4</u>
Tropical	<u>0-7 1/4</u>
Winter	<u>1-2</u>
Winter North Atlantic	<u>1-4</u>

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LAHRA

Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shown on the following sketches:—



TRUNK

$$\frac{7.33 \times (33.75 + 20.06)}{33.75} = 5.84$$

State any special features in the construction of the ship:—

TRUNK B

$$\begin{aligned} \text{en} &= 62.33 + (26.92 - 23.04) \\ &= 62.33 + 3.88 \\ &= 66.21 \times \frac{20.06}{33.75} = 39.35 \end{aligned}$$

FELS

$$\text{LEN} = 21.42$$

$$\text{add } 5.50 \times 3.72 \times 2 = 1.49$$

$$27.5 \quad 22.91 \quad \text{Equis B. 20}$$

$$\text{3'ELD AT CR} = 23.17$$

$$\text{less } 22.91$$

$$26 = 0.11$$

Allowance for 3'ELD

$$\begin{aligned} &22.91 \quad \text{Equis} \\ &\quad .13 \quad \text{0.11} \\ \hline &23.04 \end{aligned}$$

Builder's name and yard number ✓

Names of sister ships ✓

Owners

Standard Transportation Co. Ltd.

20 : 8 : 0
15 - 0

Received by me



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