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(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

-6 JUL 1932

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having POOP-BRIDGE & FORECASTLE

Port of Survey Newcastle

Date of Survey 5th July, 1932

Name of Surveyor P. Horvace

Particulars of Classification +100A1
Carrying petroleum in bulk

Ship's Name LANARTH (Type of Superstructures.)
CAPSA

Nationality and Port of Registry British London

Official Number 162649

Gross Tonnage 8229

Date of Build 1931
10 mo

Moulded Dimensions: Length 450.00 Breadth 61.75 Depth 34.00

Moulded displacement at moulded draught = 85 per cent. of moulded depth 18286 tons

Coefficient of fineness for use with Tables .797

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth 34.00	(a) Where D is greater than Table depth (D-Table depth) R = $(34.00 - 30.00) 3.00 = + 12.18"$	Moulded Breadth (B) <u>61.75</u> Standard Round of Beam = $\frac{B \times 12}{50} = 14.82"$ Ship's Round of Beam = <u>15.2"</u> Difference <u>.68"</u> Restricted to <u>✓</u> Correction = $\frac{\text{Diff}^{\circ}}{4} \times (1 - \frac{S_1}{L}) = \frac{.68}{4} \times .6012 = -.10"$
Stringer plate ... .. .06	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <u>✓</u>	
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$		
Depth for Freeboard (D) = <u>34.06</u>	If restricted by superstructures <u>✓</u>	

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	102.54	102.54	7.3"	$\times \frac{7.25}{7.50}$	99.14	Standard Height of Superstructure <u>7.50</u>
" overhang	-	-	-	-	-	" " R.Q.D. <u>✓</u>
R.Q.D. enclosed	-	-	-	-	-	Deduction for complete superstructure <u>42.00</u>
" overhang	-	-	-	-	-	Percentage covered $\frac{S}{L} = 39.82\%$
Bridge enclosed... ..	34.50	34.50	7.3"	$\times \frac{7.25}{7.50}$	33.35	" " $\frac{S_1}{L} = 39.82\%$
" overhang aft	-	-	-	-	-	" " $\frac{E}{L} = 38.75\%$
" overhang forward	-	-	-	-	-	Percentage from Table, Line A. (corrected for absence of forecastle (if required))
Forecastle enclosed	42.12	42.12	7.3"	$\times \frac{7.46}{7.50}$	41.90	Percentage from Table, Line B. <u>Tanker 29.75%</u> (corrected for absence of forecastle (if required))
" overhang	-	-	-	-	-	Interpolation for bridge less than .2L (if required)
Trunk aft	-	-	-	-	-	Deduction = $42.00 \times 29.75 = - 12.49"$
" forward	-	-	-	-	-	
Tonnage opening aft	-	-	-	-	-	
" " forward	-	-	-	-	-	
Total	179.16	179.16	-	-	174.39	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	Mean actual sheer aft	Mean standard sheer aft
A.P.	55.00	1	✓	55.00	61.00	61.00	1	✓	61.00	61.00	61.00
1/4 L from A.P.	24.48	4	✓	97.92	26.67	26.66	4	✓	106.64	106.64	106.64
1/2 L "	6.05	2	✓	12.10	6.65	6.66	2	✓	13.32	13.32	13.32
Amidships	✓	4	✓	✓	✓	✓	4	✓	✓	✓	✓
3/4 L from F.P.	12.10	2	✓	24.20	13.30	13.32	2	✓	26.76	26.76	26.76
1/4 L "	48.95	4	✓	195.80	53.32	53.52	4	✓	214.08	214.08	214.08
F.P.	110.00	1	✓	110.00	120.00	120.00	1	✓	120.00	120.00	120.00
Total				495.02					541.80		

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - \frac{S}{2L}}{\frac{.75}{2L}} \right) = \frac{46.78}{78} \left(\frac{.75 - .1991}{.75} \right) = -1.43"$

If limited on account of midship superstructure. ✓

If limited to maximum allowance of 1 1/2 ins. per 100 ft. ✓

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient
Depth to Freeboard Deck = <u>34.06</u>	$\Delta = 17400$	Depth Correction 12.18
Summer freeboard = <u>6.65</u>	Tons per inch immersion at summer load water line	Deduction for superstructures 12.49
Moulded draught (d) = <u>27.41</u>	T = <u>56.4</u>	Sheer correction 1.43
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{\Delta}{4}$ inches = <u>6.85</u> = <u>6 3/4"</u>	Deduction = $\frac{\Delta}{40T}$ inches = <u>47" = 7 3/4"</u>	Round of Beam correction 1.10
Addition for Winter North Atlantic Freeboard (if required) = <u>4 1/2"</u>		Correction for Thickness of Deck amidships
		Other corrections, scantlings, etc.
		12.18 14.02 - 1.84
		Summer Freeboard = <u>79.72"</u>

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

Tropical Fresh Water Line above Centre of Disc ...	36.8 = 14 1/2"	Tropical Fresh Water Freeboard ...	6' 7 3/4" = 2026
Fresh Water Line " " ...	19.7 = 7 3/4"	Fresh Water " " ...	5' 5 1/4" = 1658
Tropical Line " " ...	17.1 = 6 3/4"	Tropical " " ...	6' 0" = 1829
Winter Line below " " ...	17.1 = 6 3/4"	Winter " " ...	6' 1" = 1855
Winter North Atlantic Line " " ...	28.6 = 11 1/4"	Winter North Atlantic " " ...	7' 2 1/2" = 2197

7 JUL 1932

RECEIVED 22 OCT 1935
RECEIVED 8 JUL 1932

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS													
← Upper Decks →													
Description of Hatchway				CARGO HATCH.	2 MAIN CARGO HATCHES.	FORWARD PUMP ROOM.	6 COFFER-DAM HATCHES.	2 OIL-FUEL BUNKERS.	TO FORE PEAK.	TO STORE	TO STORES OFF.		
Dimensions of Hatchway				9'0" x 12'1"	6'0" x 4'0"	3'0" x 3'0"	1'8" x 1'2"	1'8" x 1'5"	3'0" x 3'0"	3'0" x 3'0"	3'6" x 3'5"		
COAMINGS	{	Height above Deck ...	...	30 ✓	30	30	10" x 32" x 32" x 50 Channel ✓	10" x 32" x 32" x 50 Channel ✓	12" x 32" x 44" B.A. ✓	12" x 32" x 44" B.A.	9" x 32" x 44" B.A.		
		Thicknes { Sides ...	...	44 ✓	40 ✓	40 ✓							
		Stiffeners .7" x 3" x 40 B.A. ...	...	44 ✓	40	40							
		Brackets, Stays ...	...	A.E. ✓	-	-							
HATCH BEAMS	{	Number ...	...									
		Spacing ...	...									
		Scantling and Sketch ...	...									
		Bearing Surface ...	...									
FORE AND AFTERS	{	Number ...	...									
		Spacing ...	...									
		Unsupported Lengths ...	...									
		Scantling* and Sketch ...	...									
HATCH COVERS	{	Material ...	...	Steel ✓	Steel	Steel	Steel ✓	Steel	Steel	Steel	Steel		
		Thickness ...	...	50 ✓	60	50	50	50	40	40	40		
		How fitted ...	...	STIFFENING 53" x 3" x 42 B.A. ✓	Overtight	Overtight	Overtight	Overtight	Overtight	Overtight	Overtight		
		Bearing Surface ...	...	3 OFF. ✓									
Spacing of Cleats				Overtight ✓									
Number of Tarpaulins													

*Are wood fore and afters steel shod at all bearing surfaces ? ✓

Are battens and wedges efficient and in good condition ? ✓

Are tarpaulins in good condition and in accordance with rule requirements ? ✓

Are lashings provided in accordance with rule requirements ? ✓

Particulars of fiddley, funnel and ventilator coamings:—

Particulars of fiddley, funnel and ventilator coamings:—
The fiddley gratings are fitted with hinged steel covers.
The engine room skylight is steel.
Fiddley & funnel vents good.

Particulars of Flush Bunker Scuttles:—

None.

Particulars of Companionways :—

Particulars of Companionways :—
Upper Deck:— Entrance to peak store in fore front with hinged teak door in way-operating both sides. Sill 18" ✓
" " Entrance to main pump room in steel house 7'3" in height with hinged W/T. steel door-operating both sides. Sill 18" ✓

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—

Particulars of Ventilators in exposed positions on freeboard and superstructure decks :-			
To the decks :-			
1 @ 9" dia.	led to fore peak.	Coaming	21" x 25" also 5 G.N. 5" dia x 14" to mouth (Canvas covers).
1 @ 10" "	" "	stone	36" x 32"
1 @ 12" "	" "	hold	33" x 34"
3 @ 12" "	" "	hold, etc.	36" x 34"
2 @ 24" "	" "	hump room	90" x 40" (Not stayed).
3 @ 12" "	" "	poop space	21" x 34" also 2 G.N. 5" dia x 14" to mouth (Canvas covers).
2 @ 6" "	" "	" "	18" x 26"
4 @ 8" "	" "	" "	21" x 28"
Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks :-			

The ventilators are in accordance with rule requirements.
Closing wood plugs & canvas covers.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks :—

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—

Foredecks:- 2@ 3 $\frac{1}{2}$ " dia & 2@ 2 $\frac{1}{2}$ " dia x 26" to mouth led to Fore peaks, etc.

Upperdecks:- 2@ 3" " x 35" to mouth led to coffer-dam.

10@ 2 $\frac{1}{4}$ "-3 $\frac{1}{4}$ " dia led to settling tanks, bunkers etc x 68" to mouth.

Pooh. 2@ 3" dia x 23" to mouth led to 'F.W. tanks

2@ 3" " x 21" " " " aft peak.

Closing. Wood pumps

air pipes closed with gauges. ✓

Particulars of Gangway Cargo and Coaling Ports :—

Name.

Particulars of Scuppers and Sanitary Discharge Pipes —

W. C. discharges lead to M. I. Storm valves fitted.
 all sanitary pipes fitted with storm valves.
 Scuppers from aft boat deck discharging below V.D. not fitted with valves.
 Scuppers from poop to E.R. bridges fitted with cocks.
 Fore scupper overboard fitted with screw plug.

Particulars of Side Scuttles:

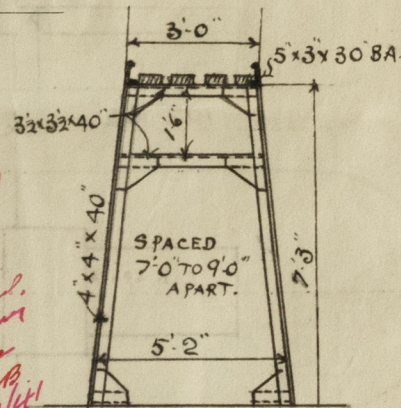
Hinged dead-lights fitted in Poop, bridge & fore spaces.

Particulars of Guard Rails:

Poop, bridge & fore decks - 3 tier rails 3'6" high. Stans. sp. 4'9"-5'6" apart.
 Upper deck - bulwarks 3'6" high. Stans 6" x 42 B.P. spaced 5'9" apart or
 3 tier rails 3'6" " " spaced 5'0" apart.

Particulars of Gangways, Lifelines, etc.:-

Gangway fitted from poop - bridge - fore as per sketch.
 2 tier rails 3'10" high. Stans sp. 5'6" apart.



See Report (contd.)
 dated 10/9/41
 For additional
 sketch of
 10/10/41

Particulars of Freeing Arrangements.

	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well ... 150'0"	Bulwark 78'0" Rail 72'0"	3'6"	3'00" x 1'50"	2	9'4" + 48% Rails	
Forward Well 120'10"	Bulwark 59'7" Rail 61'3"	3'6"	3'00" x 1'50"	2	9'4" + 51% Rails	
State position of each freeing port ... After Well: — 11'6" & 137'6" from bridge end. (F. and A. position and height above deck edge) Forward Well: — 13'6" & 113'0" " fore end } 11" above decks. State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: — Additional area where sheer is less than standard.						

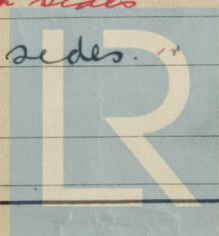
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ...	44	40	10 x 3 1/2 x 40 BA	30"	Lugs	2) 5'0" x 30"	18"	
Raised Quarter Deck Bulkhead ...	✓							
Bridge, After Bulkhead ...	34	30	4 x 3 x 36	35"	-	2) 5'1" x 37"	18"	
Bridge, Forward Bulkhead ...	44	40	9 x 3 1/2 x 44 BA	31"	Bkts.	1) 5'0" x 30"	18"	
Forecastle Bulkhead ...	30	30	3 x 2 1/2 x 30	34"	-	8) 5'0" x 25"	18"	
Trunk, Aft ...	✓							
Trunk, Forward ...	✓							
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓							
Exposed Machinery Casings on Superstructure Decks ...	34	30	3 x 2 1/2 x 30	27"	-	2) 4'10" x 24"	20"	7'9"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	✓							
Deckhouses on Flush Deck Ships ...	✓							

Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead ...	Hinged W.T. steel doors - operating both sides.
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead ...	Steel plates closed with hook bolts.
Bridge, Forward Bulkhead ...	Hinged W.T. steel doors - operating both sides.
Forecastle Bulkhead ...	Hinged wood & 1 hinged steel doors - operating both sides.
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	The floor giving access to spaces below fore and aft deck is of steel and capable of being operated from both sides.
Exposed Machinery Casings on Superstructure Decks ...	Hinged steel doors - operating both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	Class I appliances fitted.
Deckhouses on Flush Deck Ships ...	✓

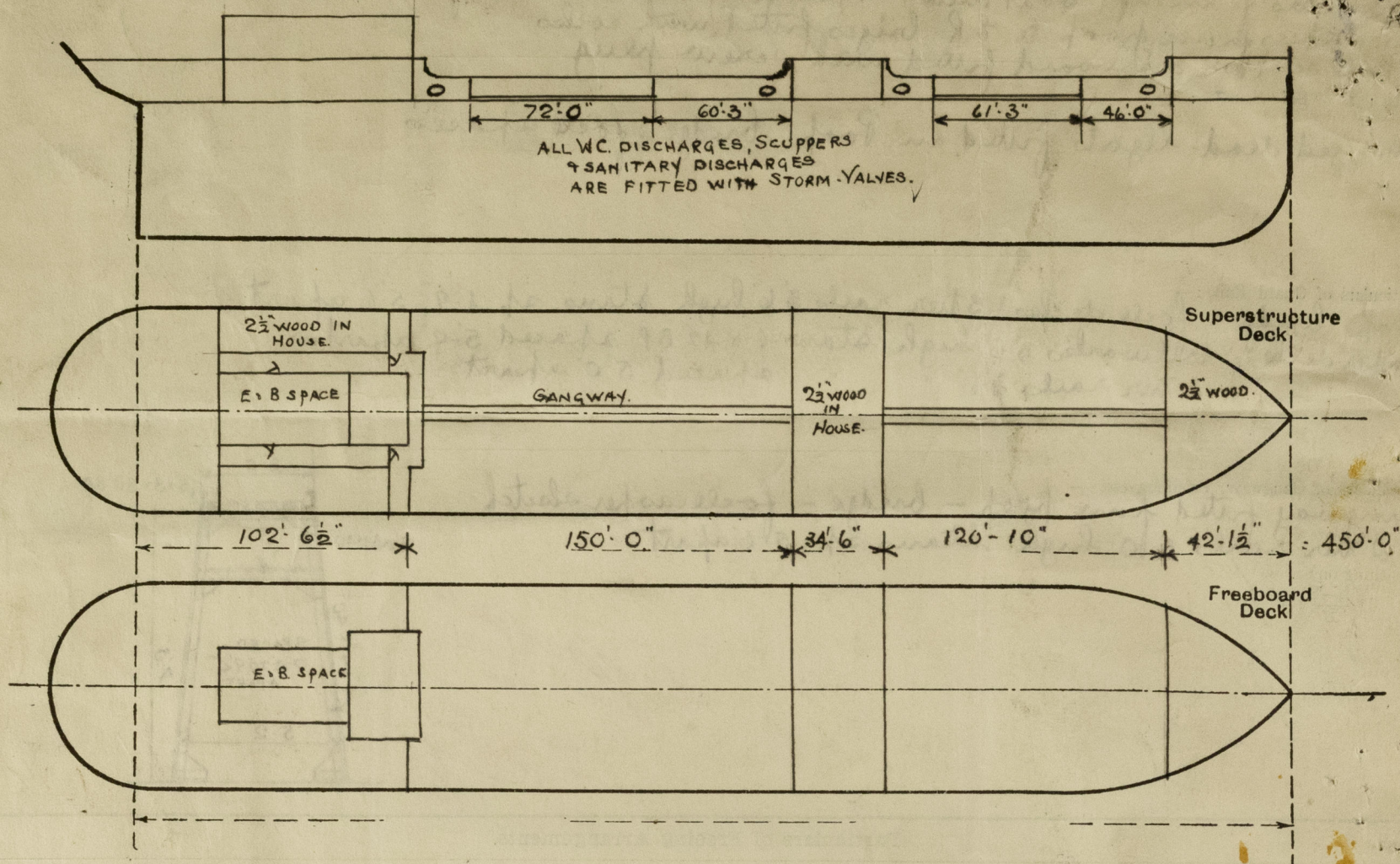
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Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shewn on the following sketches:—



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

Gr. Dft.	Gr. Dwt.	T.P.I.
31'0"	19730	57.7
32'0"	20425	58.1
33'0"	21125	58.5

Load Draught = $27 \frac{4}{10}$ mld ≈ 27.60 feet

$$\Delta = \frac{19730 - (57.7 \times 408)}{2320} = 17400$$

Vessel examined in dry docks.

Builder's name and yard number *Hawthorn Leslie & Co. Ltd.*

Names of sister ships *Caprella*

Owners *Anglo-Saxon Petroleum Co. Ltd.*

Fee £ *16 : 3 : 0.*

Received by me



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