

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having

Poop, Bridge, Forecastle

Port of Survey

Rotterdam

(Type of Superstructures.)

Date of Survey

Building

Name of Surveyor

L. H. WEHRMEIER

Ship's Name

M.V. "ERODONA"

Nationality and Port of Registry

British
London

Official Number

165410

Gross Tonnage

Date of Build

1937

Moulded Dimensions: Length 425.0 Breadth 54.25 Depth 31.0

Moulded displacement at moulded draught = 85 per cent. of moulded depth 13330 M³ tons

Coefficient of fineness for use with Tables

.775

= 13450 tons

Particulars of Classification

+100 A1.
carrying petroleum in bulk
(class contemplated)

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... 31.0	(a) Where D is greater than Table depth (D-Table depth) R = (31.06 - 28.33) 3 = 8.19"	Moulded Breadth (B) 54.25'
Stringer plate ... 0.06	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = 13.02$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = 1.12 = 13.44
Depth for Freeboard (D) = 31.06		Difference .42 excess
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.42}{4} \times .5623 = -.06$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed <i>equivalent</i>	28'-0"	89.28	7'-8 1/8"	-	89.28
" overhang ...	89.28				
R.Q.D. enclosed					
" overhang					
Bridge enclosed <i>equivalent</i>	39'-6"	40.83	7'-5 1/4"	7.48/750	40.72
" overhang aft ...	40.83				
" overhang forward					
F'cle enclosed <i>equivalent</i>	48'-3"	55.91	7'-8 1/8"		55.91
" overhang ...	55.91				
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward					
Total ...	186.02	186.02			185.91

Standard Height of Superstructure 7.5'

" " R.Q.D. ✓

Deduction for complete superstructure 42"

Percentage covered $\frac{S}{L} = 43.77$ " " $\frac{S_1}{L} = 43.77$ " " $\frac{E}{L} = 43.74$

Percentage from Table, Line A. Tanker 34.74

(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 = $42 \times .3474 = -14.59$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	52.50	1		52.50	55.63	55.63	1		55.63
1/2 L from A.P. ...	23.36	4		93.44	22.75	22.75	4		91.00
2/3 L " ...	5.775	2		11.55	6.25	6.25	2		12.50
Amidships ...		4					4		
2/3 L from F.P. ...	11.55	2		23.10	11.75	11.75	2		23.50
1/2 L " ...	46.72	4		186.88	47.13	47.13	4		188.52
F.P. ...	105.00	1		105.00	108.00	108.00	1		108.00
Total ...				472.47					479.15

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{6.68}{18} (.75 - .2188) = -.20$

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 = 31.06
 Summer freeboard = 5.56
 Moulded draught (d) = 25.50

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 6.37 = 6 1/4"

Addition for Winter North Atlantic Freeboard (if

required) = $6.37 + 4.25 = 10.62 = 10 1/2$

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 12907$ 131046

Tons per inch immersion at summer load water line

T = 18.75 47.64

Deduction = $\frac{\Delta}{40 T}$ inches = 6.88 = 7"

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient

 $\frac{.775 + .68}{1.36} = \frac{1.455}{1.36} =$

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

68.65

73.45

+ -

8.19 -

- 14.59

- .20

- .06

- -

- -

8.19 14.85 - 6.66

Summer Freeboard = 66.79

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

Tropical Fresh Water Line above Centre of Disc ...	13 1/4
Fresh Water Line " " ...	7
Tropical Line " " ...	6 1/4
Winter Line below " " ...	6 1/4
Winter North Atlantic Line " " ...	10 1/2

Tropical Fresh Water Freeboard ...

Fresh Water " " ...

Tropical " " ...

Winter " " ...

Winter North Atlantic " " ...

5'-6 3/4"

4'-5 1/2"

4'-11 3/4"

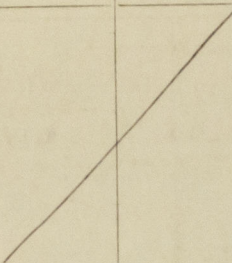
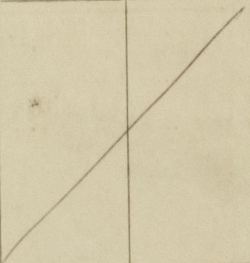
5'-0 1/2"

6'-1"

6'-5 1/4"

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS.									
Description of Hatchway			Hatchway to fore hold. on freeboard deck		oil tight hatches on freeboard deck centre bunks		wing bunks		
Dimensions of Hatchway			0'-0" x 10'-0"		4'-0" x 3'-0"		4'-0" x 3'-0"		
COAMINGS	{	Height above Deck	...	30"		coaming		coaming	
		Thickness	...	.44		33" x .44		33" x .44	
		Sides	...	.44					
		Ends	...						
		Stiffeners	...	none					
		Brackets, Stays	...	none					
HATCH BEAMS	{	Number	...	1		Forewell		Forewell	
		Spacing	...	hatchway		4 hatches		0 hatches	
		Scantling and Sketch	...	trunked in between fore castl. deck and freeboard deck.		afterwell 4 hatches		afterwell 0 hatches	
		Bearing Surface	...						
FORE AND AFTERS	{	Number	...	1					
		Spacing	...	small escape					
		Unsupported Lengths	...	hatch fitted					
		Scantling* and Sketch	...	on steel hatch cover 2'-0" x 2'-0" coaming 6 x 3 x 36 B.A. shel screw down cover .50 in thickness					
		Bearing Surface	...						
HATCH COVERS	{	Material	...	steel		steel		steel	
		Thickness	...	.50		.50		.50	
		How fitted	...	efficiently stiffened		efficiently stiffened			
		Bearing Surface	...	with 4 angles 6 x 3 x .40		and braced			
Spacing of Cleats			...	screws down survival		luggles 1" in diam			
Number of Tarpaulins			...	bolts or luggles 1" in diam spaced 15" apart		spaced 14" apart			
*Are wood fore and afters steel shod at all bearing surfaces? none fitted									
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:— Fiddley casing, funnel and ventilator in efficient condition. Water room skylight all steel with steel flaps strongly constructed. Gratings on fiddley casing fitted with strong steel hinged covers.

Particulars of Flush Bunker Scuttles:— *none fitted*

Particulars of Companionways:— One steel companionway on foreboard deck in forewell 8'-5" x 13'-10" x 4'-6" high leading to forward pumproom with steel hinged watertight door on after side 4'-7" x 12'-6" sill 19" capable of being operated from both sides
One steel companionway on foreboard deck in afterwell being an exact replica on the one in forewell /

Particulars of Ventilators in exposed positions on freeboard and superstructure decks —				
On fore-castle deck	1 vent 12" dia.	coaming	36" x 36"	led to forepeak
	6 vents 10" "	"	36" x 32"	" " enclosed fore-castle
	10 vents 9" "	"	36" x 30"	" " " "
On bridge deck	2 vents 9" "	"	30" x 28"	" " bridge space
	3 vents 12" "	"	30" x 36"	" " poop space
On poop deck	2 vents 10" "	"	30" x 32"	" " " "
	4 vents 6" "	"	30" x 28"	" " " "

all vents & casings constructed in accordance with the Rules and casings closed with wood plugs and canvas covers

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

on forecastle deck	7 airpipes	3" dia. x 36" high from forepeak and deep tank	} all airpipes are fitted with gauge and canvas covers are provided
on poop deck	5 " "	5" dia x 30" high from double bottom tanks	
	2 " "	5 1/2" dia x 30" high from afterpeak tank	

Air pipes from centre and wing tanks are led up foremast and mainmast

Particulars of Gangway Cargo and Coaling Ports:— *none filled*

Particulars of Scuppers and Sanitary Discharge Pipes :-

Sanitary discharges from accommodation:
 In fore-castle port one 4" and one 5" dia. below 2" deck
 In Bridge Port one 4" and one 5" dia. above foreward deck
 In Poop Port two 4" one 3" 2 one 2 1/2" dia. above foreward deck
 Starb two 4" one 3" 2 one 2" dia. below foreward deck
 Starb two 4" and one 3" dia.

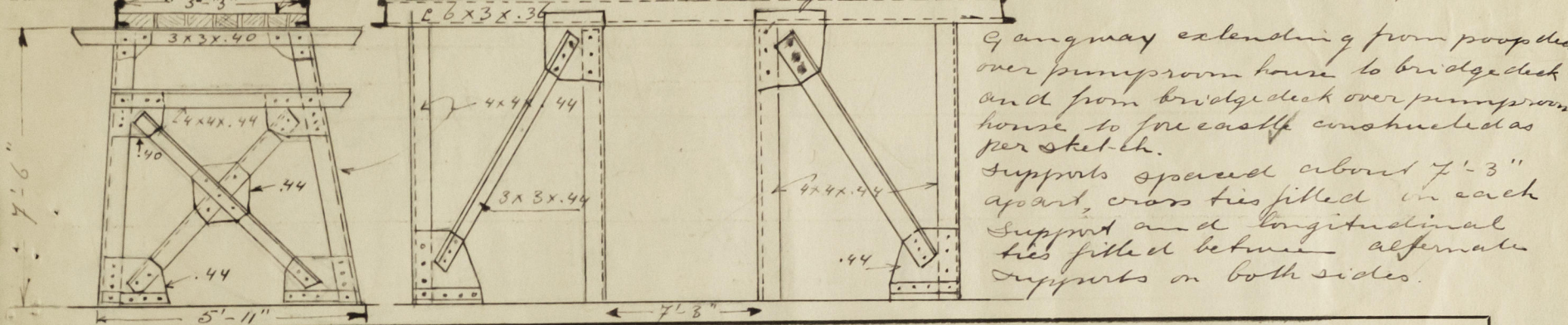
all sanitary discharges fitted below foreward deck have cast steel valve chests on ship side and metal flammable in addition sluice valves are fitted to all sanitary discharges in way of poops
 Scuppers from poop deck port four 3" and one 2" dia. starb three 3" and two 2" dia. below foreward deck

Particulars of Side Scuttles :-

Side scuttles to accommodation and storerooms in fore-castle, bridge and Poop are all of substantial construction and fitted with permanently attached deadlights

Particulars of Guard Rails :- Part steel bulwarks on foreward deck in afterwell and in forewell as per sketch on page 4. 3'-7" high efficiently constructed and supported.
 guard rails on fore-castle deck 3'-6" high having 3 rods and stanchions spaced 3'-9" apart
 " " " bridge deck 3'-6" high having 3 rods and stanchions spaced 4'-0" apart
 " " " poop deck 3'-6" " " 3 " " 4'-3" "

Particulars of Gangways, Lifelines, etc. :- 3' planking fitted on gangway.
 Guard rails on gangway 3'-6" high 2 rods stanchions 4'-0" apart



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	132'-10"	3'-7"	3'-1" x 1'-8" oval 64'-9" open rail	3	12 sq ft	50% open rails
Forward Well	100'-8"	3'-7"	3'-1" x 1'-8" oval 56'-8" open rail	1	4 sq ft.	

State position of each freeing port { After Well :- } 12 1/2" above deck edge
 (F. and A. position and height above deck edge) { Forward Well :- } 3 vertical bars 1" in dia.
 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.

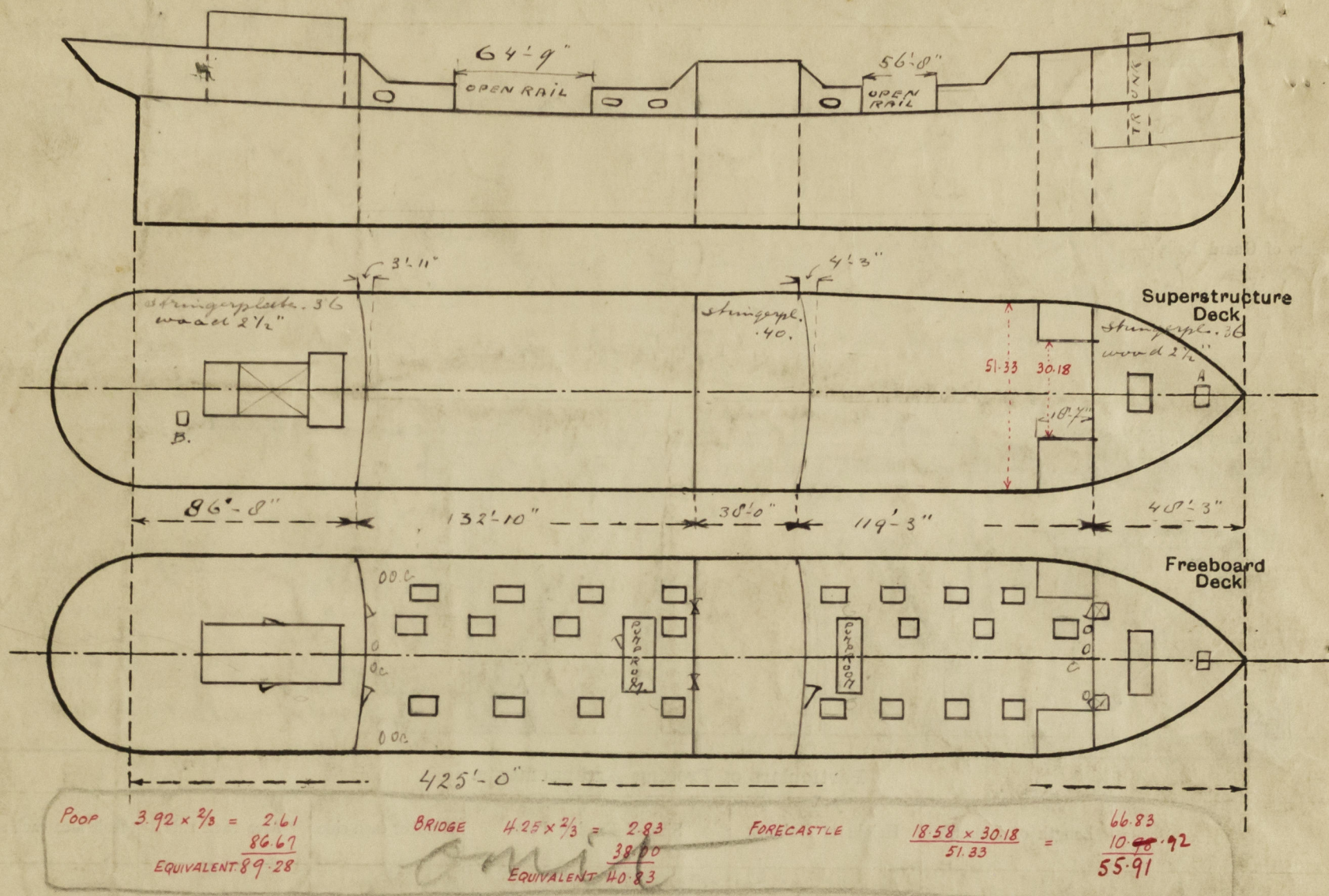
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	vertical plating .44		4 x 3 1/2 x .408 A. 2 division bulkheads	30"-33"	Bottom brackets top welded to beams	4'-3" x 2'-6"	24"	7'-6"
Raised Quarter Deck Bulkhead ...	v		4 3/4 x 3 x .36 A.	30"	none	4'-3" x 3'-1"	24"	7'-6"
Bridge, After Bulkhead	vertical plating .30		2 division bulkhead	30"	bottom brackets top welded to beams	5'-0" x 2'-6"	20"	7'-6"
Bridge, Forward Bulkhead	vertical plating .44		2 x 3 1/2 x .40 B.A. 2 division bulkheads	32"	none	4'-6" x 2'-6"	24"	7'-6"
Fore-castle Bulkhead	24" x .36	.30	4 3/4 x 3 x .32 A.	30"	none			
Trunk, Aft	v							
Trunk, Forward	v							
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	v							
Exposed Machinery Casings on Super-structure Decks	24" x .32	.30	4 x 2 1/2 x .32 A.	26"	brackets on top only	none	-	0'-0"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	v							
Deckhouses on Flush Deck Ships ...	v							

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

Poop Bulkhead	Steel hinged watertight doors operated from both sides
Raised Quarter Deck Bulkhead ...	v
Bridge, After Bulkhead	Steel portable plates fastened with hookbolts 1" in dia. spaced 14" apart
Bridge, Forward Bulkhead	Steel hinged watertight door operated from both sides
Fore-castle Bulkhead	2 steel hinged watertight doors to fore-castle and pump room
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	2 steel hinged doors accommodation, all capable of being operated from both sides
Exposed Machinery Casings on Super-structure Decks	no openings
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	v
Deckhouses on Flush Deck Ships ...	v

Erodony.

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:—



Particulars have been taken whilst the vessel was under construction.

State any special features in the construction of the ship:

Small hatches on fore-castle deck A. 2'-6" x 2'-6" coaming 9" bulwark closed with steel covers fastened with taggles.
 on poop deck B. 2'-4" x 2'-4" coaming 9 1/2" bulwark closed as hatch A.
 cuffer-dam hatches on foreward deck C. 2'-0" x 1'-6" coaming 10" channel doors closed with steel bolted covers 3/4" bolts fastened 3/4"

Builder's name and yard number *N.V. L. van der Giessen & Zonen's Scheepswerven* yard N° 640

Names of sister ships *7/11 "ENSIS" Rotterdam report N° 25199.*
7/11 "EULIA" " " " N° 25170.

Owners *Anglo Saxon Petroleum Co Ltd.*

Fee £ *1204.-* : *with* Received by me *V. H. Wehrmeijer* Application *from* attached to this report.