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Index. No. **32846**
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

GLASGOW REPORT No. **53699**

Computation of Freeboard for Steamer, Sailing Ship, Tanker						Port of Survey GRANGEMOUTH
having POOP, F'CLE AND TRUNK IN WELL						Date of Survey 27-7-33
(Type of Superstructures.) SHELL WELDER.						Name of Surveyor W.A. GRIER
Ship's Name T.S.M.V. "ENERGIE"	Nationality and Port of Registry BRITISH ROCHESTER	Official Number 160692	Gross Tonnage 500.95	Date of Build 1928-9	Particulars of Classification +100A.1.3.32 CARRYING PETROLEUM IN BULK	
Moulded Dimensions: Length 150.2 Breadth 27.65 Depth 10.75						
Moulded displacement at moulded draught = 85 per cent. of moulded depth 755 tons						
Coefficient of fineness for use with Tables .70						

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth 10.75	(a) Where D is greater than Table depth (D - Table depth) R = (10.75 - 10.01) 1.155 = +.89"	Moulded Breadth (B) 27.5
Stringer plate ... .. .03	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{27.5 \times 12}{50} = 6.60"$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = 7.0
Depth for Freeboard (D) = 10.78		Difference .40
		Restricted to
		Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.40}{4} \times .189 = -.02"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	79.0	79.00	7.5		79.00	Standard Height of Superstructure 6.00
" overhang ... ..	.5	.25			.25	" " R.Q.D.
R.Q.D. enclosed						Deduction for complete superstructure 21.02
" overhang						Percentage covered $\frac{S}{L} = 70.22\%$
Bridge enclosed						" " $\frac{S_1}{L} = 81.10\%$
" overhang aft						" " $\frac{E}{L} = 81.10\%$
" overhang forward						Percentage from Table, Line A, Tanker 76.66%
F'cle enclosed	22.45	25.95	7.75		25.95	(corrected for absence of forecastle (if required))
" overhang AT SIDE	3.50		7.75			Percentage from Table, Line B,
Trunk aft } AT CENTRE	10.50		7.50			(corrected for absence of forecastle (if required))
" forward }	38.25	16.58	7.50		16.58	Interpolation for bridge less than .2L (if required)
Tonnage opening aft						Deduction = 21.02 x .7666 = 16.11
" " forward						
Total	105.45	121.78			121.78	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	25.02	1		25.02	24.00	24.00	1		24.00	Mean actual sheer aft = Deficient
1/8 L from A.P.	11.13	4		44.52	5.50	5.50	4		22.00	Mean actual sheer forward = Deficient
1/4 L " "	2.75	2		5.50	0	0	2		0	Mean standard sheer forward
Amidships		4		0	0	0	4		0	Length of enclosed superstructure forward of amidships =
3/8 L from F.P.	5.50	2		11.00	0	0	2		0	" " aft of " =
1/2 L " "	22.26	4		89.04	8.75	8.75	4		35.00	
F.P.	50.04	1		50.04	43.00	43.00	1		43.00	
Total				225.12		101.12			124.00	
Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{72.00}{18} \left(.75 - .3511 \right) = +.46$										
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.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Fresh Deck (if required)
Depth to Freeboard Deck = 10.78	Displacement in salt water at summer load water line	Correction for coefficient $\frac{68 \times 70}{1.56} = 1.86$
Summer freeboard = .27	$\Delta =$	Depth Correction ... .. .89
Moulded draught (d) = 10.51	Tons per inch immersion at summer load water line	Deduction for superstructures 16.11
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 2 3/4"	T =	Sheer correction 1.60
Addition for Winter North Atlantic Freeboard (if required) = 2"	Deduction = $\frac{\Delta}{40 T}$ inches = 2 3/4"	Round of Beam correction ... .. .02
		Correction for Thickness of Deck amidships
		Other corrections, scantlings, etc. 3.13
		Summer Freeboard = 2.42

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

Tropical Fresh Water Line above Centre of Disc 3 1/2"	Fresh Water Line " " 2 3/4"	Tropical Fresh Water Freeboard .. minus .. 0'-0 3/4"	Fresh Water " " .. minus .. 0'-0 3/4"
Tropical Line " " 3 1/4"	Winter Line below " " 2 3/4"	Tropical " " .. 0'-2" (limited)	Winter " " .. 0'-5 1/2"
Winter Line " " 2 3/4"	Winter North Atlantic Line " " 4 3/4"	Winter " " .. 0'-4 1/2"	Winter North Atlantic " " .. 0'-7 1/2"

5m, 3.32

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	...	...	4 O. T. TRUNK TOP	4 O. T. POOP DECK	POOP DECK STORE				
Dimensions of Hatchway	...	...	3-6x2-6	3-6x2-6	3-0x2-9				
COAMINGS	{	Height above Deck	...	AS PER APPROVED					
		Thickness	Sides	...	PLAN				
		Stiffeners	Ends	...	7x3x40 ANGLE	6" CHANNEL			
		Brackets, Stays	...	COAMING	COAMING				
HATCH BEAMS	{	Number	...						
		Spacing	...						
		Scantling and Sketch	...						
		Bearing Surface	...						
FORE AND AFTERS	{	Number	...						
		Spacing	...						
		Unsupported Lengths	...						
		Scantling* and Sketch	...						
Bearing Surface	...								
HATCH COVERS	{	Material	...	STEEL OIL TIGHT	STEEL				
		Thickness	...	COVERS	WTCOVER				
		How fitted	...	50	40				
		Bearing Surface	...						
Spacing of Cleats	...	...					
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:—

FUNNEL AND VENTILATOR COAMINGS IN EFFICIENT CONDITION
 ENGINE SKYLIGHTS OF STEEL STRONGLY CONSTRUCTED

Particulars of Flush Bunker Scuttles:— NONE

Particulars of Companionways:—

ONE STEEL COMPANION 3-0x2-6x5-0 HIGH ON TRUNK TOP LEADING TO F'CLE, DOOR OF WOOD WITH 16 SILL, DOOR OPERATED BOTH SIDES
 ONE " " 5-3x3-0x7-6 " " POOP DECK " " POOP, (MAC. SPACE, GALLEY, STORE ETC) DOOR OF WOOD WITH 12 SILL, DOOR OPERATED FROM BOTH SIDES

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

2 VENTS ON F'CLE DECK 7" DIA. COAMINGS 30x30 LED TO CREW SPACE
 1 " " " " 6" " MUSHROOM " " W.C.
 1 " " TRUNK TOP 9" " COAMING 36x30 " " STORE
 2 " " POOP DECK 15" " 30x35 " " TWEEN DECK + PUMP ROOM
 2 " " " " 7" " 30x30 " " ACCOMMODATION
 2 SWAN NECKS " " 4" 13" HIGH " " OIL FUEL BUNKERS
 4 MUSHROOMS " " 6" 4" " " ACCOMMODATION
 2 VENTS ON " " 7" COAMINGS 30x30 " " STORE

ALL VENTILATORS CONSTRUCTED IN ACCORDANCE WITH RULES AND COAMINGS CLOSED WITH WOOD PLUGS AND CANVAS COVERS

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

1 C.I. AIR PIPE ON TRUNK TOP 18" HIGH x 6" DIA FROM COFFERDAM, WITH CANVAS COVER

Particulars of Gangway Cargo and Coaling Ports:— NONE



Particulars of Scuppers and Sanitary Discharge Pipes :—

DECK SCUPPERS THROUGH SHEERSTRAKE AND STRINGER ANGLE IN WELL.

1 FORT SIDE FOREW. AND 1 P15 AFT W.C. DISCHARGES, FITTED WITH STORM VALVES AT SHIPS SIDE, ~~DISCHARGING AT DECK LINE.~~

*Forward discharges below freeboard deck.
After discharges 12 1/2" above " "*

Particulars of Side Scuttles :—

SIDE SCUTTLES TO CREW SPACES IN F'CLE AND POOP PROVIDED WITH DEADLIGHTS

ALL SCUTTLES OF SUBSTANTIAL CONSTRUCTION.

Particulars of Guard Rails :—

GUARD RAILS IN WELL, ON F'CLE, ON TRUNK TOP AND ON POOP, 3-6 HIGH, HAVING 3 ROPS AND STANCHIONS SPACED 5 FT.

Particulars of Gangways, Lifelines, etc. :—

GANGWAY FORMED BY TOP OF EXPANSION TRUNK, RAILS P15

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						
Forward Well						

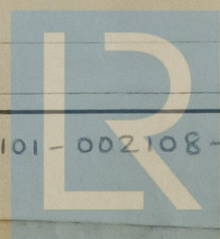
State position of each freeing port } After Well :—
(F. and A. position and height above deck edge) } Forward Well :—
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :—
Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

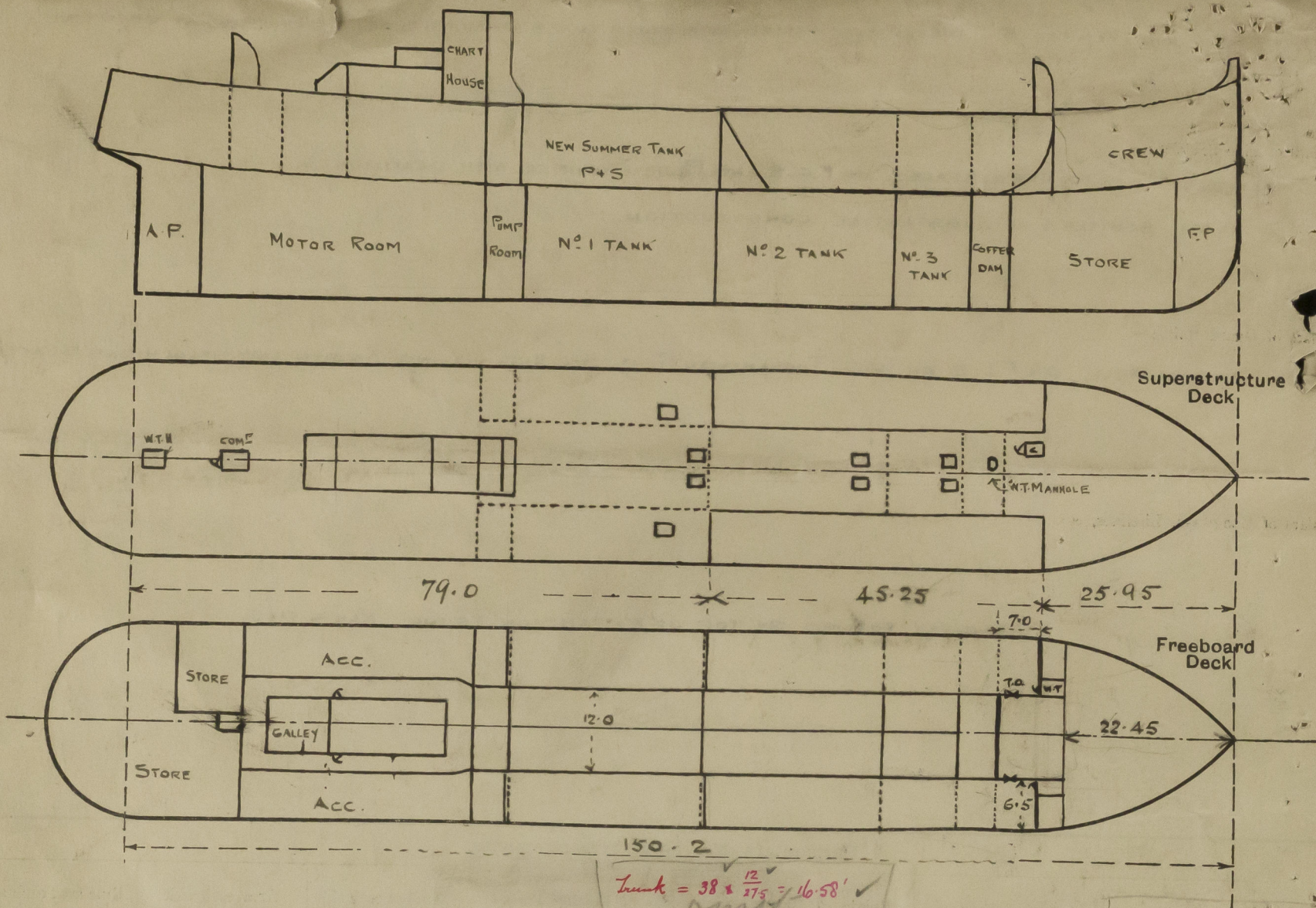
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	✓	.34 /	5 1/2 x 3 x 30 BA	25	BKTS TOP & BOTTOM	NONE	✓	7-6
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead								
Bridge, Forward Bulkhead								
Forecastle Bulkhead	✓	.30 /	5 x 3 x 28 A	25	LUGS TOP & BOTTOM	5-0 x 2-5 M.T. 4-6 x 3-6 T.O.	18" 19"	8-0
Trunk, Aft	30 x 36	.34 /	5 x 3 x 32 A	21	BKTS TOP	NONE	✓	7-6
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks	✓	.25 /	3 x 2 1/2 x 36 A	28	BKTS TOP	5 NONE	✓	2-6
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	NO OPENINGS
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead	✓
Bridge, Forward Bulkhead	✓
Forecastle Bulkhead	WT. DOOR P15 IN ATHWART CASING, CAPABLE OF BEING MANIPULATED FROM BOTH SIDES
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	TONNAGE OPENING IN F&A CASING, CLOSED BY PORTABLE PLATE WITH HOOK BOLTS CLASS 2.
Exposed Machinery Casings on Superstructure Decks	✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	NO OPENINGS
Deckhouses on Flush Deck Ships ...	✓



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 shown on the following sketches:—



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

S.S. N°1 NOW HELD AND ALTERATIONS AS PER APPROVED PLAN NOW EFFECTED -
POOP LENGTHENED, EXPANSION TRUNK INCREASED IN HEIGHT ETC, AS PER APPROVED PLAN.

Builder's name and yard number I. J. ABOELA + MITCHELL (1925) L^o N° 535

Names of sister ships

Owners MEDWAY OIL + STORAGE CO

Fee £ 6 : 16 : 0

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