

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.Index No. **31804**
(For London Office only.)No **101013**
-7 SEP 1932Computation of Freeboard for Steamer, Sailing Ship, Tugboat
having **Raised Quarter Deck. Bridge House & Forecastle**Port of Survey **Liverpool**

(Type of Superstructures.)

Date of Survey **Sept 2nd & subsequently 1932**

Ship's Name

ELMFIELD

Nationality and Port of Registry

**British
Liverpool**

Official Number

147331

Gross Tonnage

450

Date of Build

1925-10Name of Surveyor **A.B. Murray**Moulded Dimensions: Length **142.0'** Breadth **25.83'** Depth **12.5'**

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

765 tons

Coefficient of fineness for use with Tables

687Particulars of Classification **+100A1****SS. Liv. No. 130**

Depth for Freeboard (D)

Moulded depth ... **12.5'**Stringer plate ... **38.03**

Sheathing on exposed deck

$$T \left(\frac{L-S}{L} \right) =$$

Depth for Freeboard (D) = **12.53**

Depth correction

(a) Where D is greater than Table depth

(D - Table depth) R =

$$(12.53 - 9.47) 1.092 = +3.34''$$

(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) **25.83'**

$$\text{Standard Round of Beam} = \frac{B \times 12}{50} = 6.20''$$

$$\text{Ship's Round of Beam} = 6\frac{1}{2}''$$

Difference **.30''**Restricted to **✓**

$$\text{Correction} = \frac{\text{Diff.}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.30}{4} \times .2192 = -.02''$$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	✓				
" overhang ...	✓				
R.Q.D. enclosed ...	84.75'	84.75	3.75'		84.75
" overhang ...	✓				
Bridge enclosed ...	8.75'	8.75	6.75'	✓	8.75
" overhang aft ...	✓				
" overhang forward ...	20.50'				
Forecastle enclosed ...	24.0"	17.35	6.75'	✓	17.35
" overhang ...	See sketch				
Trunk aft ...	✓				
" forward ...	✓				
Tonnage opening aft ...	✓				
" forward ...	✓				
Total ...	114.00	110.85			110.85

Standard Height of Superstructure **6.00**" " R.Q.D. **3.28**Deduction for complete superstructure **26.20**Percentage covered $\frac{S}{L} = 80.29\%$ $\frac{S_1}{L} = 78.08\%$ $\frac{E}{L} = 78.08\%$ Percentage from Table, Line A. **72.94%**

(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 = **26.20 × 72.94 = -14.73**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	24.20	1		24.20	30.5	$\frac{65.86}{18}$	1		30.5
$\frac{1}{2}$ L from A.P. ...	10.77	4		43.08	14	14.22	4		65.20
$\frac{2}{3}$ L " ...	2.66	2		5.32	2	3.55	2		8.06
Amidships ...		4					4		
$\frac{2}{3}$ L from F.P. ...	5.32	2		10.64	4.5	6.32	2		12.64
$\frac{1}{2}$ L " ...	21.54	4		86.16	24	25.28	4		101.12
F.P. ...	48.40	1		48.40	59.	60.00	1		60.00
Total ...				217.80					283.66

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{65.86}{18} (.75 - .4014) = -1.28''$$

If limited on account of midship superstructure.

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 = **16.28**Summer freeboard = **3.94**Moulded draught (d) = **12.34**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = **3.09 = 3"**Addition for Winter North Atlantic Freeboard (if required) = **2"**

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 = $\frac{\Delta}{40T}$ inches**3"**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$$\frac{.68 + .087}{1.36} = \frac{1.367}{1.36}$$

Depth Correction ... **3.34**Deduction for superstructures ... **14.73**Sheer correction ... **1.28**Round of Beam correction ... **.02**

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc. ... **45.00****48.34** **16.03** **+32.31**Summer Freeboard = **46.84 + .16**SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, **Wood, Steel, Deck** — **3-11" limited**

Tropical Fresh Water Line above Centre of Disc ...

Fresh Water Line " " ...

Tropical Line " " ...

Winter Line below " " ...

Winter North Atlantic Line " " ...

3" Tropical Fresh Water Freeboard ...

3" Fresh Water " " ...

0" Tropical " " ...

3" Winter " " ...

5" Winter North Atlantic " " ...

8 SEP 1932

15m, 3.32

MARKING FORM

MARKING FORM

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Description of Hatchway			No 1.	No 2.	BUNKER ON CASING TOP.						
Dimensions of Hatchway			20'-8" x 14'-6"	22'-8" x 14'-6"	6'-6" x 9'-0"						
COAMINGS	{	Height above Deck	39	37	12"						
		Thickness	{	Sides	.44	.44	.34				
				Ends	.44	.44	.34				
		Stiffeners	✓	✓	✓						
		Brackets, Stays	✓	✓	✓						
HATCH BEAMS	{	Number	3	3	✓						
		Spacing	5'-0"	5'-8 1/2" 5'-10"	✓						
		Scantling and Sketch	Plate 24" x 3/4	Plate 21" x 3/4							
			LS 3 x 3 x 3/4	LS 3 x 3 x 3/4	✓						
			Cope 3 x 1 1/2"	Cope 3 x 1 1/2"							
			Bearing Surface	3 1/2"	3 1/2"	✓					
FORE AND AFTERS	{	Number									
		Spacing									
		Unsupported Lengths									
		Scantling* and Sketch	✓	✓	✓						
		Bearing Surface									
HATCH COVERS	{	Material	WP	WP	WP						
		Thickness	2 3/4	2 3/4	2 3/4						
		How fitted	F & A.	F & A.	F & A.						
		Bearing Surface	3"	3"	7 1/2" 2 1/2"						
		Spacing of Cleats	34" 37" 24"	36" 24"	27 1/2 31"						
Number of Tarpaulins			2	2	2						
<p>*Are wood fore and afters steel shod at all bearing surfaces? ✓</p> <p>Are battens and wedges efficient and in good condition? Yes ✓</p> <p>Are tarpaulins in good condition and in accordance with rule requirements? Yes ✓</p> <p>Are lashings provided in accordance with rule requirements? Yes ✓</p>											

Particulars of fiddle, funnel and ventilator coamings:—

Fiddle, funnel & ventilator coamings in efficient condition.
 E.R. Skylights constructed of steel.
 Fiddle gratings fitted with steel hinged covers.

Particulars of Flush Bunker Scuttles:—

Two on the RQ Deck 18" dia cast iron (substantial) screwed into position.

Particulars of Companionways:—

Steel Companion under forecabin leading to Crews Quarters.
 Door, 55" x 22" sill 10 1/2". Wood, cap able of being manipulated from either side.

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

1- on Forecastle Deck. 20" high 7 1/2" dia to Lower Side.
 1- on Freeboard Deck 15" high 7 1/2" dia to Lower Side.
 1- on Freeboard Deck 142" high 8" dia to Hold.
 1- on RQ Deck 36" high 8" dia to Hold.
 Wood plugs & canvas covers fitted.

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

1- 3 1/2" dia 3'-0" high on Freeboard deck under Side to Fore deep Tank.
 1- 2 1/2" dia 3'-6" high on Freeboard deck under Side to Fore Peak Tank.
 1- 2" dia 2'-6" high on RQ Deck to AP Tank.
 1- 2 1/2" dia 3'-0" high on RQ Deck to AP Tank.
 Efficient closing arrangements are provided

Particulars of Gangway Cargo and Coaling Ports:—

None.



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Particulars of Scuppers and Sanitary Discharge Pipes:— *Scuppers cut in stringer angles!*
2 in fore well & 3 on R.D. Deck. 4" x 3".
Sanitary discharge pipes fitted with storm valves at the ship's side.

Particulars of Side Scuttles:—
Side scuttles of substantial construction fitted with hinged deadlights.

Particulars of Guard Rails:—
Forecastle deck. 3'-0" high. Stanchions spaced 5'-6" 2 rail.

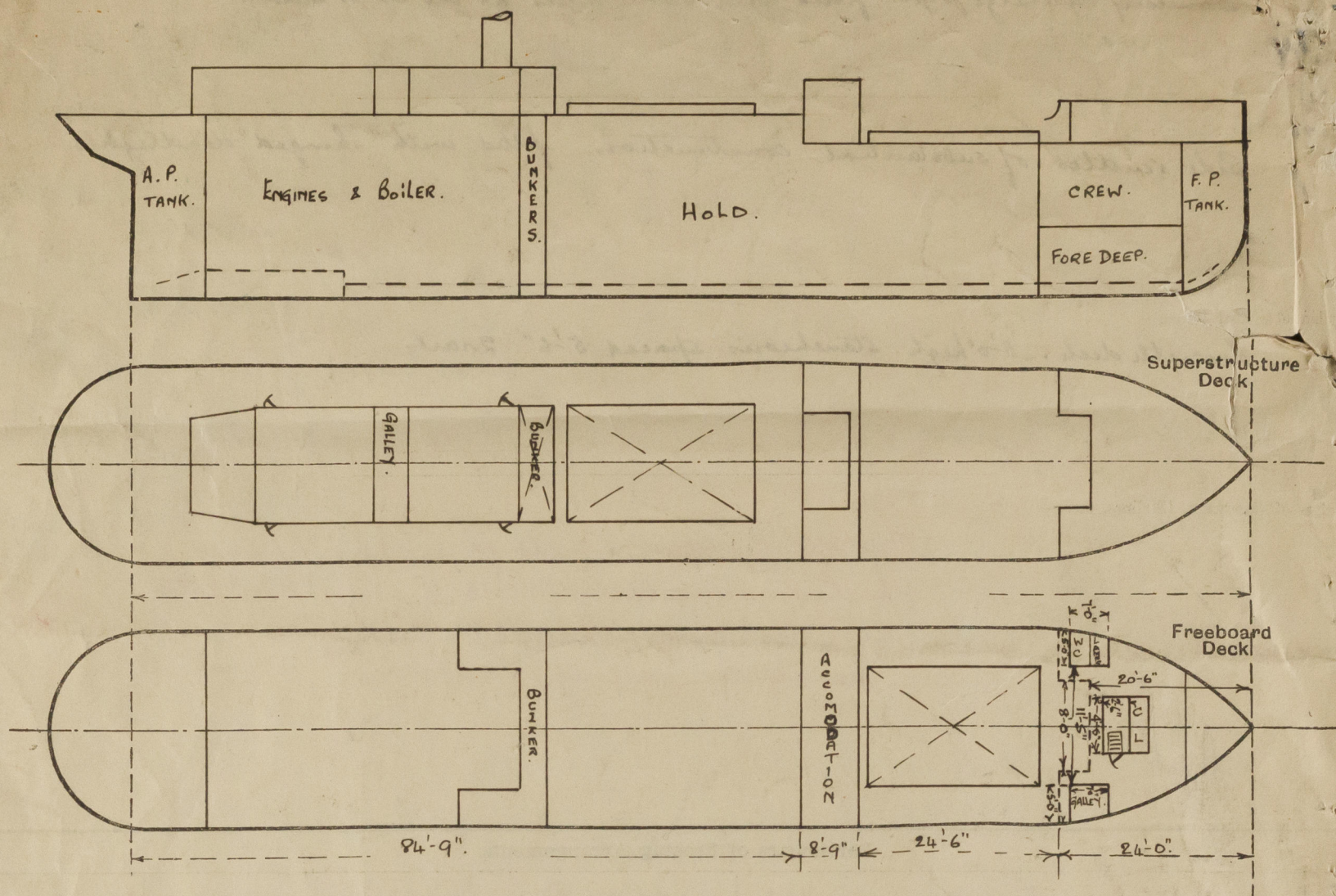
Particulars of Gangways, Lifelines, etc.:—
Suitable provision is made for rigging lifelines which are available for use in any part of the ship which might have to be used by the crew in the regular working of the ship

Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
Fore Well ... <i>R.D. Deck</i>	<i>84'-9"</i>	<i>3'-0"</i>	<i>2'-0" x 1'-0"</i> <i>2'-6" x 1'-6"</i>	<i>3</i>	<i>6.47</i>	<i>16.94</i>
Forward Well ...	<i>24'-6"</i>	<i>4'-0"</i>	<i>2'-6" x 1'-10"</i>	<i>2</i>	<i>9.15</i>	<i>9.04</i>
<i>State position of each freeing port ... R.D. Deck. 9'-2" 4'-5" Bridge front. 19'-10" 24'-0" 16'-11" Sills 4" x 4 1/2".</i> <i>State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— hinged shutters.</i>						
<i>Additional area where sheer is less than standard.</i>						

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 ...	✓							
Raised Quarter Deck Bulkhead ...		<i>.25"</i>	<i>wood</i>	<i>24"</i>	<i>9</i>	<i>none</i>		<i>3'-9"</i>
Bridge, After Bulkhead ...		<i>.25"</i>	<i>cased</i>					<i>3'-0"</i>
Bridge, Forward Bulkhead ...	<i>Vent. plating.</i>	<i>.25"</i>	<i>wood cased</i>	<i>28"</i>	<i>Akts top & bottom</i>	<i>none</i>		<i>6'-9"</i>
Forecastle Bulkhead ... <i>Side houses.</i>		<i>.25"</i>						<i>6'-9"</i>
Trunk, Aft ...								
Trunk, Forward ...								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	<i>.30</i>	<i>.25"</i>	<i>3 x 2 1/2 x 1/4</i>	<i>28"</i>	<i>Butt at top</i>	<i>54 x 22"</i>	<i>19"</i>	<i>6'-7 1/2"</i>
Exposed Machinery Casings on Superstructure Decks ...								
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 ...	✓
Raised Quarter Deck Bulkhead ...	✓ <i>no openings</i>
Bridge, After Bulkhead ...	✓ <i>no openings</i>
Bridge, Forward Bulkhead ...	✓ <i>no openings</i>
Forecastle Bulkhead ...	✓ <i>open</i>
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	<i>Steel hinged doors Manipulated from both sides</i>
Exposed Machinery Casings on Superstructure Decks ...	✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	✓
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 shewn on the following sketches:—



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

Vessel afloat. Freeboard only.

Builder's name and yard number

Lytham SB & Eng Co Ltd. No 644.

Names of sister ships

Heatherfield

Owners

Gillies Shipping & Carrying Co Ltd (W.A. Savage & Co. Mgrs)

Fee £

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