

WRECK SECTION
13 FEB 1932
33014
Index. No. 33014.
(For London Office only.)
Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

52141

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having POOP, TRUNK AND FLE

Port of Survey GRANGEMOUTH

(Type of Superstructures.)

Date of Survey 9-2-32

Ship's Name

Nationality and Port of Official Number

Gross Tonnage

Date of Build

ELKHOUND

British Registry
St. John N.B.

729.49

1929-10

Name of Surveyor W.A. GRIER

Moulded Dimensions: Length 180.0 Breadth 31.5 Depth 14.0

Moulded displacement at moulded draught = 85 per cent. of moulded depth 1168 tons

Coefficient of fineness for use with Tables .441

Particulars of Classification 100 A.1.

CARRYING PETROLEUM IN BULK

Depth for Freeboard (D)

Moulded depth ... 11.0

Stringer plate03

Sheathing on exposed deck

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

Depth for Freeboard (D) = 11.03

Depth correction

(a) Where D is greater than Table depth
(D-Table depth) R =(b) Where D is less than Table depth (if allowed)
(Table depth-D) R =

$$(12.00 - 11.03) \times 1.385 = 1.34$$

If restricted by superstructures $1.34 \times \frac{5.0}{2.0} = -1.12$

Round of Beam correction

Moulded Breadth (B) 31.5

$$\text{Standard Round of Beam} = \frac{B \times 12}{50} = 7.56$$

$$\text{Ship's Round of Beam} = 8$$

Difference

Restricted to

$$\text{Correction} = \frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.34}{4} \times .235 = -.02$$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poep enclosed	63.71	63.71	7.5	✓	63.71
" overhang	NIL				
R.Q.D. enclosed	✓				
" overhang	✓				
Bridge enclosed	✓				
" overhang aft	✓				
" overhang forward	✓				
Pole enclosed	15.0	18.37	6.0	✓	18.37
" overhang	3.5				
Trunk aft	100.67	55.65	5.0	55.65 × 5.0/2.0	46.37
" forward	✓				
Tonnage opening aft	✓				
" forward	✓				
Total	82.46	137.43			128.45

Standard Height of Superstructure 6.00

" " R.Q.D. ✓

Deduction for complete superstructure 24.00

Percentage covered $\frac{S}{L} = 45.81$ " $\frac{S_1}{L} = 46.52$ " $\frac{E}{L} = 41.36$

Percentage from Table, Line A.

(corrected for absence of forecastle (if required))

Percentage from Table, Line B, Tanker. 64.64

(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = $24.00 \times .6464 = -15.52$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	28.00	1		28.00	31.25	31.25	1		31.25
$\frac{1}{2}$ L from A.P.	12.46	4		49.84	3.0	3.00	4		12.00
$\frac{3}{4}$ L	3.08	2		6.16	0	-	2		-
Amidships	✓	4		0	-	-	4		-
$\frac{3}{4}$ L from F.P.	6.16	2		12.32	0	-	2		-
$\frac{1}{2}$ L	24.92	4		99.68	5.0	5.00	4		20.00
F.P.	56.00	1		56.00	48.0	48.00	1		48.00
Total				252.00					111.25

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{140.75}{18} \times (.75 - .229) = +4.04$$

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 = 11.03

Summer freeboard = 0.71

Moulded draught (d) = 10.32

for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 2.58 = 2 $\frac{1}{2}$ Addition for Winter North Atlantic Freeboard (if required) = 1.80 = 1 $\frac{3}{4}$

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 1308$

Tons per inch immersion at summer load water line

T = 11.6

Deduction = $\frac{\Delta}{40T}$ inches

= 2.82

= 2 $\frac{3}{4}$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

.441 + .68

1.36

Depth Correction ... 1.12

Deduction for superstructures ... 15.52

Sheer correction ... 4.04

Round of Beam correction02

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

4.04 16.66 - 12.59

Summer Freeboard = 8.54

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

Tropical Fresh Water Line above Centre of Disc ... 5 $\frac{1}{2}$ Fresh Water Line " " ... 2 $\frac{3}{4}$ Tropical Line " " ... 2 $\frac{1}{2}$ Winter Line below " " ... 2 $\frac{1}{2}$ Winter North Atlantic Line " " ... 4 $\frac{1}{2}$ Tropical Fresh Water Freeboard ... 0'-8 $\frac{1}{2}$ "Fresh Water " " ... 0'-3 $\frac{1}{4}$ "Tropical " " ... 0'-5 $\frac{3}{4}$ "

Winter " " ... 0'-6"

Winter North Atlantic " " ... 1'-0 $\frac{1}{2}$ "

MARKING FORM

18 SEP 1934

FLK HOUND

Particulars of fiddley, funnel and ventilator coamings :—

STOCKHOLD GRATING COVERED BY STRONG STEEL HINGED COVERS ✓

FIDDLEY, FUNNEL AND VENTILATORS IN EFFICIENT CONDITION

ENGINE SKYLIGHT OF STEEL STRONGLY CONSTRUCTED.

Particulars of Flush Bunker Scuttles:—

Two strongly constructed cast iron scuttles on poop deck (fitted with bayonet joints and attached by chain) led to
poop tween decks
on port side converted to hatch 3' x 3' coam 24" x 40 3" cover & off battery 11 amp

Particulars of Companionways :—

ONE STEEL COMPANION 6'-0" x 11'-0" x 6'-6" HIGH ON TRUNK TOP, LEADING TO ENCLOSED PUMPROOM, HINGED W.T. DOOR
OF STEEL WITH 1 1/2" SILL, DOOR OPERATED FROM BOTH SIDES. ✓

Particulars of Ventilators in exposed positions on freeboard and superstructure decks :—						NO VENTS ON FLEE OR FOB DECK ✓	
TWO VENTS ON TRUNK TOP	"	DIA.	COAMING	36"x52"	LED TO	HELD AND LUX. PUMP ROOM	
	"	"	"	18"x18"	"	PUMP ROOM	
ONE "	"	"	"	36"x52"	"	E.R. ALSO ENCLOSED POOF ✓	
ONE "	"	"	"	24"x50"	"	" " " " ✓	
ONE "	"	"	"	24"x30"	"	ENCLOSED GUN SPACE ✓	
ONE "	"	"	"	13 1/2"x30"	"	" " " " ✓	
TWO MUSHROOMS	"	"	"	12" HIGH	"	STEERING GEAR COMPARTMENT. ✓	
FOUR "	ONE CASING TOP AND BOAT DECK LEVEL	"	"	DIA. 12" HIGH	LED TO	ACCOMMODATION. ✓	
	"	"	"	"	"	" " " " ✓	
TWO "	"	"	"	"	"	BATHROOMS ✓	
TWO "	NAVIGATING BRIDGE	"	"	"	"	ACCOMMODATION ✓	
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 :—

FIVE M.I. AIR PIPES ON F'CLE DECK 14" HIGH 3½" DIA FROM F.P. TANK, F'CLE SPACE AND DEEP TANK.

FOUR " " " " TRUNK TOP 14 " $3\frac{1}{2}$ " " COFFERDAMS ✓

FOUR " " " POOP DECK 14 - 3 1/2 - " POOP SPACE AND A.P. TANK ✓

ONE " " " " " " 17 1/2 " 1 1/4 " " ENCLOSED DOMESTIC F.W. TANK. ✓

Element C.1. Sounding pipes on trunk top 9" high 3/4" dia fitted with screwed caps. All air pipes have quieting hole on top of bend and are closed with canvas cover.

None

Particulars of Gangway Cargo and Coaling Ports:— NONE.

Particulars of Scuppers and Sanitary Discharge Pipes — BELOW FBD DECK, NONE ✓
ABOVE FBD DECK, F/CLE AND TRUNK, NONE ✓
POOP DECK SCUPPERS, PANTRY SINK SCUPPERS, BATH ROOM DISCHARGES LED THRO POOP SIDE PLATING ✓
 " W.C. DISCHARGES LED THRO' POOP SIDE PLATING WITH STORM VALVE AT SHIPS SIDE ✓
 " SCUPPER PIPE P/S FROM S.G. COMPARTMENT LED THRO FBD DECK STRINGER ANGLE WITH SCREWED CAP INSIDE

Particulars of Side Scuttles: **BELOW FBD. DECK NONE**

SIDE SCUTTLES TO F'CLE AND CREW SPACES PROVIDED WITH PORTABLE DEADLIGHTS. ✓

ALL SCUTTLES OF SUBSTANTIAL CONSTRUCTION. ✓

Particulars of Guard Rails :—

GUARD RAILS ON FOLE, FSD D^x AND POOP 3'-6" HIGH HAVING 3 RAILS AND STANCHIONS SPACED 4' TO 4'-9" APART.

Particulars of Gangways, Lifelines, etc. :—

GANGWAY FROM POOP TO FCLC FORMED BY TRUNK TOP WITH GUARD RAILS EACH SIDE 3'-6" HIGH HAVING 2 RODS AND STANCHIONS SPACED 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		OPEN				
Forward Well			RAILS ✓			

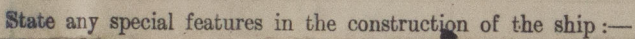
State position of each freeing port } After Well :—
(F. and A. position and height above deck edge) } Forward Well :—
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :—
Additional area where sheer is less than standard.

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 ✓	6½ × 5 × 50 B.A. ✓	27 ✓	LUGGED ✓	NONE ✓	NONE ✓	7'-6"
Raised Quarter Deck Bulkhead ...	✓							
Bridge, After Bulkhead	✓							
Bridge, Forward Bulkhead	✓							
Forecastle Bulkhead	35 ✓	30 ✓	3 × 3 × 34 A. ✓	36 ✓	✓	3-0 × 4-0 ✓	13 ✓	6'-0"
Trunk, Aft	✓	35 ✓	4 × 3 × 30 A. ✓	21 1/2 ✓	BKTS TOP & BOTTOM ✓	NONE ✓	NONE ✓	5-0
Trunk, Forward	✓							
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓							
Exposed Machinery Casings on Super-structure Decks	34 ✓	30 ✓	2½ × 2½ × 28 ✓	27 ✓	✓	2-0 × 5-0 ✓	18 ✓	7'-3"
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).

Loop Bulkhead	NO OPENINGS
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead	✓
Bridge, Forward Bulkhead	✓
Forecastle Bulkhead	WOOD SHIFTING BOARDS IN RIVETED CHANNELS FULL HEIGHT
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓
Exposed Machinery Casings on Super-structure Decks	HINGED STEEL DOOR TO FIDDLEY, KINGED WOOD DOOR THRO DECKHOUSE TO E.R. MANIPULATED BOTH SIDES
Machinery Casings within Superstructure not fitted with Class I Closing Appliances	✓
Deckhouses on Flush Deck Ships ...	✓

EHKHOON)



Feb. $\frac{1}{10} L$

$$\begin{array}{r} 18.75 \\ 18.00 \\ 2 \overline{) .75} \\ .37 \\ 18.00 \\ 18.37 \end{array}$$

Drunk I $\frac{.38 \times 14.}{31.5} = .14$

II $\frac{97.09 \times 18.}{31.5} = \underline{55.48}$

$\underline{55.65}$

Proof $\frac{2.08 \times 24.75}{31.5} = 1.63$

$\underline{62.08}$

$\underline{63.71}$

Names of sister ships.

Fee £ 0 : 16 : 0

Received by me.