

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. 32247
(For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship, Tanker

Poop, Bridge & Forecastle.

Port of Survey Belfast.

(Type of Superstructures.)

Boat in 2.12.38

Date of Survey 26.29 - Mar 3 1932

Ship's Name

Nationality and Port of Registry

Gross Tonnage

Date of Build

"SCHUYLKILL"

British

148358

8965

1928

Name of Surveyor Jas. J. Rennie

Moulded Dimensions: Length 470

Breadth 63.5

Depth 34.75

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

19750

tons

Coefficient of fineness for use with Tables

.784

Particulars of Classification + 100 A1.

Longitudinal framing

Carry up Petroleum in bulk

Depth for Freeboard (D)

Depth correction

Round of Beam correction

Moulded depth ... 34.75

(a) Where D is greater than Table depth

Moulded Breadth (B) 63.50

Stringer plate ... 87

(D-Table depth) R =

Standard Round of Beam = $\frac{B \times 12}{50} = 15.24$

Sheathing on exposed deck

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

(b) Where D is less than Table depth (if allowed)

Ship's Round of Beam = $\frac{B \times 12}{50} = 15.4$

Depth for Freeboard (D) = 34.82

If restricted by superstructures

Difference

Restricted to

Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S_1}{L} \right) = \text{NIL}$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	102.33	102.33	7' 6"	-	102.33
... overhang ...	See sketch				
R.Q.D. enclosed ...					
... overhang ...	35.67	35.67	8' 0"	-	35.67
Bridge enclosed ...	35.67	35.67	8' 0"	-	35.67
... overhang aft ...	8.50	8.50			8.50
... overhang forward ...					
Deck enclosed ...	49.00	49.00	7' 9"	-	49.00
... overhang ...					
Trunk aft ...					
... forward ...					
Tonnage opening aft ...					
... forward ...					
Total ...	187.67	187.50			187.50

Standard Height of Superstructure 7.50

R.Q.D.

Deduction for complete superstructure 42.0

Percentage covered $\frac{S}{L} = 39.93\%$

$\frac{S_1}{L} = 39.89\%$

$\frac{E}{L} = 39.89\%$

Percentage from Table, Line A.

(corrected for absence of forecastle (if required))

Percentage from Table, Line B. TANKER 30.89%

(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = $42.0 \times 30.89 = 12.97$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	57.00	1	57.00	69.0	69.0	1	69.00		
$\frac{1}{2}$ L from A.P. ...	25.36	4	101.44	32.4	32.4	4	129.60		
$\frac{2}{3}$ L " ...	6.27	2	12.54	8.1	8.1	2	16.20		
Amidships ...		4				4			
$\frac{2}{3}$ L from F.P. ...	12.54	2	25.08	14.62	14.62	2	29.24		
$\frac{1}{2}$ L " ...	50.73	4	202.92	58.5	58.5	4	234.00		
F.P. ...	114.00	1	114.00	132.5	132.5	1	132.50		
Total ...			512.98				610.54		

Mean actual sheer aft = Excess

Mean standard sheer aft = Excess

Mean actual sheer forward = Excess

Mean standard sheer forward = Excess

Length of enclosed superstructure forward of amidships =

L

aft of " =

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{97.56}{18} \left(.75 - \frac{1996}{2 \times 470} \right) = -2.98$

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.

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 17905$ Tons

Tons per inch immersion at summer load water line

T = 59.85

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

= $\frac{17905}{40 \times 59.85} = 7.84 = 7\frac{3}{4}$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.784 + .65}{1.36} = \frac{1.434}{1.36}$

Depth Correction ... 10.47

Deduction for superstructures ... 12.97

Sheer correction ... 2.98

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

Summer Freeboard = 80.85

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

Tropical Fresh Water Line above Centre of Disc ...	14.34
Fresh Water Line " " ...	7.34
Tropical Line " " ...	3
Winter Line below " " ...	3
Winter North Atlantic Line " " ...	11.34

Tropical Fresh Water Freeboard ...	6' - 8.34"
Fresh Water " " ...	5' - 26.20
Tropical " " ...	6' - 1.34
Winter " " ...	7' - 3.34
Winter North Atlantic " " ...	7' - 8.34

80.20

87.8

RECEIVED

12.4.32

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS												
Description of Hatchway	Fore Hold. W.T.	O.T. Cargo. 3/4 off.	Pump Room Forward. W.T.	Cofferdams. W.T. 4 off.	O.F. Bunkers 4 off.	Fore Peak.	Chain Locker	After Peak.	Poop space. 2 off.	Steering Gear.
Dimensions of Hatchway	6' x 10'	6' x 4'	2' 6" x 2' 6"	2' x 2'	2' 6" x 2' 6"	3' x 2'	2' x 2'	3' 6" x 3'	2' 6" x 2' 6"	3' 6" x 3'
COAMINGS	{	Height above Deck	30"	30"	30"	12"	30"	12"	12"	12"	30"	30"
		Thickness	44	40	40	40	40	30	30	30	40	40
		Stiffeners	✓	✓	✓	✓	✓	✓	✓	✓	Steel Plank on 3 sides	✓
		Brackets, Stays	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
HATCH BEAMS	{	Number	none	none	none	none	none	none	none	none	none	none
		Spacing	none	none	none	none	none	none	none	none	none	none
FORE AND AFTERS	{	Scantling and Sketch	none	none	none	none	none	none	none	none	none	none
		Bearing Surface	none	none	none	none	none	none	none	none	none	none
		Number	none	none	none	none	none	none	none	none	none	none
		Spacing	none	none	none	none	none	none	none	none	none	none
HATCH COVERS	{	Unsuported Lengths	none	none	none	none	none	none	none	none	none	none
		Scantling* and Sketch	none	none	none	none	none	none	none	none	none	none
		Bearing Surface	none	none	none	none	none	none	none	none	none	none
		Material	Steel	Steel	Steel	Steel, riveted.	Steel.	Wood.	Wood.	Wood.	Wood.	Wood.
HATCH COVERS	{	Thickness	50	50	40	44	50	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
		How fitted	Hinged	Toggle	Toggle	Bolted plate manhole.	Hinged Toggle.	Laid in	Laid in	Laid in	Laid in	Laid in
		Bearing Surface	2"	2"	2"	2"	2"	1 3/4"	1 3/4"	2 1/2"	2 3/4"	2 1/2"
		Spacing of Cleats	18"-21"	15"	15"	✓	13"	none	none	none	18"	23"
Number of Tarpaulins	none	none	none	none	none	none	none	2	2	
*Are wood fore and afters steel shod at all bearing surfaces? none.												
Are battens and wedges efficient and in good condition? yes.												
Are tarpaulins in good condition and in accordance with rule requirements? yes.												
Are lashings provided in accordance with rule requirements? none.												

Particulars of fiddle, funnel and ventilator coamings:— on high casing on Poops deck.
 Fiddle, funnel & ventilator coamings in efficient condition.
 Fiddle openings covered by strong steel hinged covers.
 Engine room skylight of steel strongly constructed.

Particulars of Flush Bunker Scuttles:— none.

Particulars of Companionways:—

none. P.R. Entrance W.T. door. 19" dia. operated both sides

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

Position	Space ventilated	Height	Dia.	Thickness	No.	Deck Attachment
Fore Deck	Fore Peak Intack	36"	8"	34	1	Bolts 5 dia.
do.	Hold.	36"	14"	40	2	Rivs. 4-4 1/2 d.
do.	Pump Room	36"	8"	34	1	Bolts 5 d.
Pump Room Top	do.	24"	18"	40	2	Rivs. 4 d.
Poops Deck	Engin Room	33"	8"	30	1	Bolts 5 d.
do.	do.	28"	3" dia. Goose-neck	1	✓	-

Closing Appliances

Plugs & canvas covers

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

Position	Space led to	Height to opening	Dia.	Closing Appliances
Fore Deck	F.P. Tank	2' 7"	4"	Plugs & canvas covers except where fitted with gauze
do.	Fore Deep Tank	2' 2"	4"	
Wells	Cofferdams	2' 4"	3"	
Poops Deck	O.F. Bunkers	2' 4" x 2' 0"	4" x 3"	
do.	do. Bunkers	2' 4"	3"	
do.	" cofferdam	2' 4"	3"	
do.	A.P. Tank	2' 4"	3 1/2"	

Particulars of Gangway Cargo and Coaling Ports:—

none.



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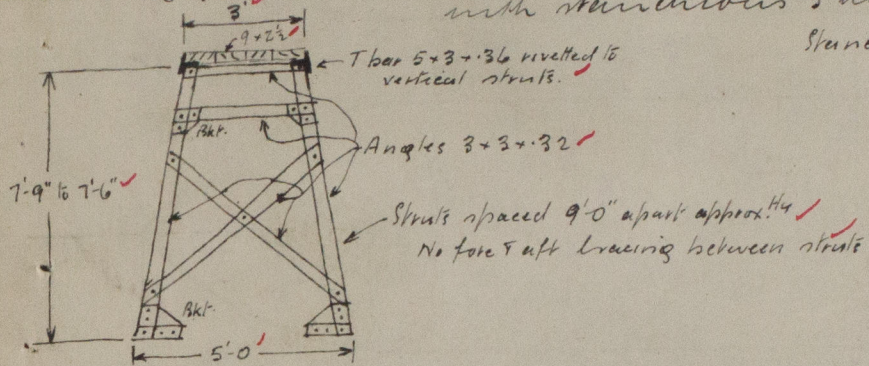
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Particulars of Side Scuttles:

Side scuttles below foreboard deck ($\frac{1}{2}$ forepeak)	fitted with hinged deadlights.	✓
Side scuttles in forecabin, bridge & poop sides	do do do do	✓
All scuttles of substantial construction. ✓		

Particulars of Guard Rails:—
On fore-castle & poop decks & bridge deck end guard rails 3'-6" high 3 rows. Stanchions spaced 5' approx.
On bridge deck front & sides efficient steel bulwark 3'-7" high. ✓

Languary fitted four poops to bridge, & from bridge to fore-castle
with stanchions 3' high & 2 rows steel wire on each side.



	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well ... 179 ... 178.33	110'-2"	3'-6"	Open rails 68'-10" 6'-9" + 7" 5'-1" + 7"	10 1	42.1 sq ft	50% open rails
Forward Well 101' ...	55'-0"	3'-6"	Open rails 46' 5'-2" + 7" 3'-5" + 7"	4 1	12.03 sq ft	" " "

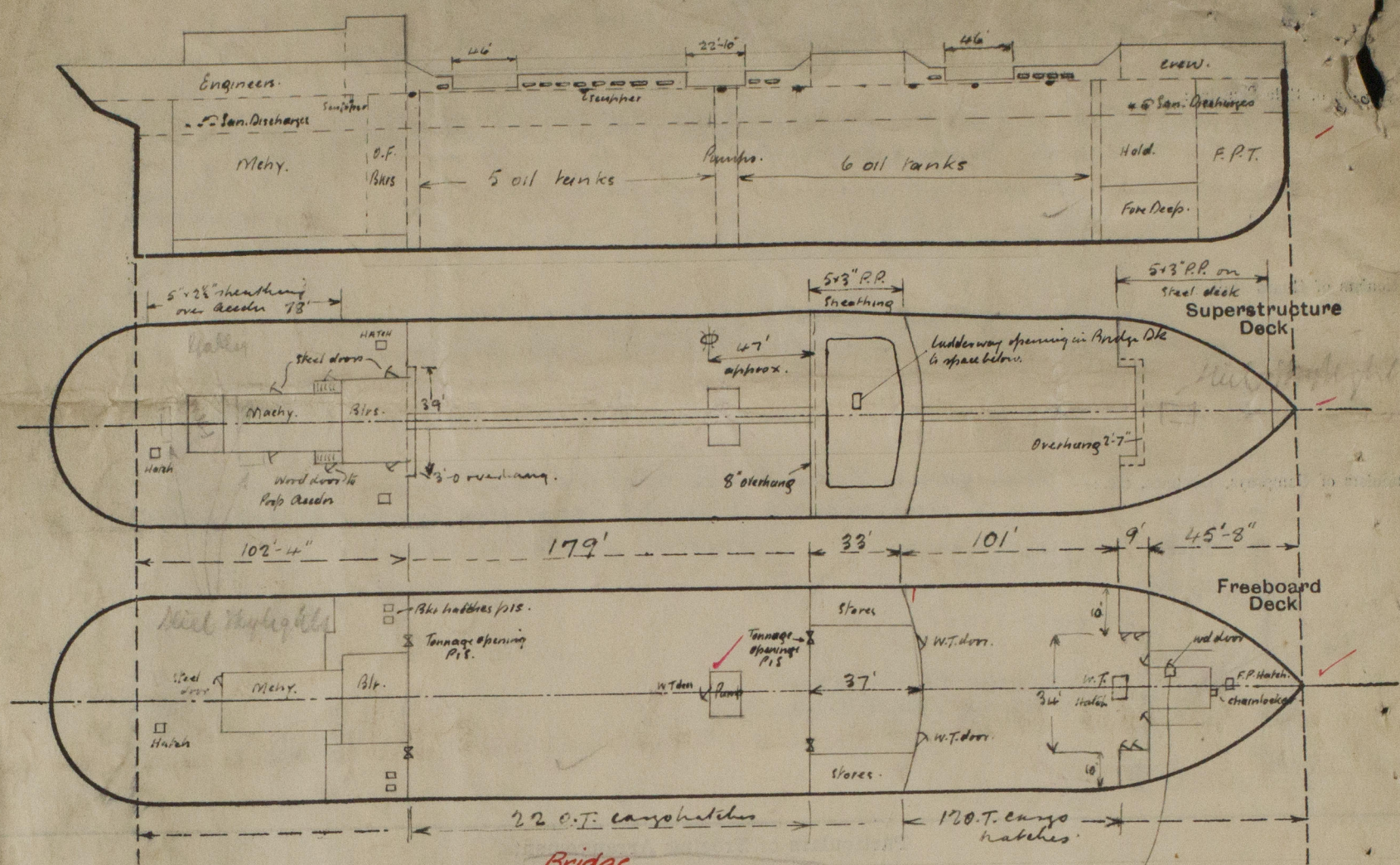
State position of each freeing port ... } After Well :— } See sketch. Heights above deck edge. 12" forward. 11" aft. ✓
(F. and A. position and height above deck edge) } Forward Well :— }
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :— none .
Additional area where sheer is less than standard.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	44 ✓	40 ✓	Wing 10 x 3½ x .505 Vert. Center 6 x 3½ x .405 Longitud. " 12 x 4 x .625 Vert.	36" 30" ✓ 66"	} Brackets ✓	2 @ 4'-10" x 36" ✓	18" ✓	7'-6"
Raised Quarter Deck Bulkhead ...	✓							
Bridge, After Bulkhead	31 ✓	31 ✓	4½" plate flange	36" approx. ✓	✓	2 @ 4'-10" x 36" ✓	18" ✓	7'-9" ✓
Bridge, Forward Bulkhead	44 ✓	40 ✓	9 x 3½ x .485 2 plate webs.	30" ✓	Brackets ✓	2 @ 4'-11" x 2'-4" ✓	18" ✓	7'-9" ✓
Forecastle Bulkhead	25 ✓	25 ✓	2½" plate flange	2'-7" ✓	✓	6 @ 4'-10" x 2'-0" ✓	18" ✓	7'-6" ✓
Trunk, Aft	✓							
Trunk, Forward <i>Pump Room</i>	✓							
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	35 ✓	30 ✓	3 x 3 x .32 ✓	2'-6" ✓	Deck bars. ✓	1 @ 4'-4" x 2'-4" ✓	19" ✓	6'-10"
Exposed Machinery Casings on Super-structure Decks	26 ✓	26 ✓	3 x 3 x .32 ✓	2'-7" ✓	3 k/2 at top. Carried down at butt.	4 @ 5' x 2' ✓ 2 @ 4'-10" x 2' ✓	17"-19" ✓	9'-6" x 7'-0"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	30 ✓	25 ✓	3 x 3 x .32 ✓	2'-7" ✓	Deck bars at bottom ✓	1 @ 5' x 2' ✓	18" ✓	7'-6" ✓
Deckhouses on Flush Deck Ships ...	✓							

Poop Bulkhead	Shipping boards 3" thick full height in rivetted channels ✓
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead	Shipping boards 3" thick full height in rivetted channels. ✓ <i>Portable steel/flyg. hatch</i>
Bridge, Forward Bulkhead	Two hinged steel W.T. doors securing from both sides. ✓
Forecastle Bulkhead	Six hinged teak wood doors 1 3/4" thick securing from both sides. (Solid doors) ✓
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	One hinged steel WT door securing from both sides. ✓
Exposed Machinery Casings on Superstructure Decks	Four " " doors " " " " (Solid doors) ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Two " teakwood " 1 3/4" thick " " " " (Solid doors) ✓
Dickhouses on Flush Deck Ships ...	One hinged steel door securing from both sides. ✓

Schuykill

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



Bridge
 $33 + \frac{2}{3} \times 4$
 $33 + 2.67 = 35.67'$

Fc/c.
 $S.H. \frac{9 \times 10}{27} = 3.33'$
49.00

Opening in deck 3'-3" with angle frame 3'-3" x 3" woodwork leading to tween deck wood bulkhead around opening

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

Particulars of External Displacement & T.P.I. about L.W.L.

Waterline.	Ext. Displ. Tons.	Tons Per Inch.
26'	17160	59.70
26'-6"	17516	59.77
27'-0 1/2"	17905	59.85
28'-0	18600	59.98
28'-6	19000	60.07

FW
 $\frac{28.19}{27} = 28.30$
 $28'0 = 18600$
 $3.6 \times 60 = 216$
18816 tons
 TPI = 60.

.85 MD = 29.84
 Keel .21
29.75

$\Delta \cdot 19850 = 19750 \text{ tons incl. from Displ. Ch}$

Builder's name and yard number

Names of sister ships

Owners

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