

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~having *Poop, Bridge and Forecastle*Port of Survey *Liverpool (Birkenhead)*

(Type of Superstructures.)

Ship's Name

TACTICIAN.

Nationality and Port of Registry

*British
Liverpool*

Official Number

149683

Gross Tonnage

5996

Date of Build

*1928
Two*Date of Survey *4th August 1932*Name of Surveyor *E.H. Dean. +
R.R. Ruthven*Particulars of Classification *F100A.1.*

Moulded Dimensions: Length *418.25'* Breadth *54.29'* Depth *32.58'*
 Moulded displacement at moulded draught = 85 per cent. of moulded depth *See last 137124 page* tons
 Coefficient of fineness for use with Tables *.763*

Depth for Freeboard (D)

Moulded depth *32.58"*Stringer plate *.506*Sheathing on exposed deck *3" on Poop Deck.*

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

Depth for Freeboard (D) = *32.63'*

Depth correction

(a) Where D is greater than Table depth

$$(D - \text{Table depth}) R = (32.63 - 27.88) 3.00 = + 14.26"$$

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

$$(\text{Table depth} - D) R =$$

If restricted by superstructures

Round of Beam correction

Moulded Breadth (B) *54.29'*

$$\text{Standard Round of Beam} = \frac{B \times 12}{50} = 13.03$$

$$\text{Ship's Round of Beam} = 16.5"$$

$$\text{Difference} = 3.47$$

Restricted to

$$\text{Correction} = \frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{3.47}{4} \times .4822 = - 0.42$$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	<i>37.0</i>	<i>37.00</i>	<i>7.11 1/2</i>		<i>37.00</i>
" overhang	<i>.58</i>	<i>.29</i>			<i>.29</i>
R.Q.D. enclosed					
" overhang	<i>124.66</i>				
Bridge enclosed... ..	<i>137.16</i>	<i>124.66</i>	<i>7.11 1/2</i>		<i>124.66</i>
" overhang aft	<i>1.00</i>	<i>10.12</i>			<i>10.12</i>
" overhang forward	<i>1.25</i>	<i>.62</i>			<i>.62</i>
Fore enclosed	<i>43.75</i>	<i>43.75</i>	<i>7.11 1/2</i>		<i>43.75</i>
" overhang	<i>.25</i>	<i>.13</i>			<i>.13</i>
Trunk aft					
" forward					
Tonnage opening aft					
" " forward					
Total	<i>220.99</i>	<i>216.57</i>			<i>216.57</i>

Standard Height of Superstructure *7.50*" " R.Q.D. *42.00*Deduction for complete superstructure *42.00*

$$\text{Percentage covered } \frac{S}{L} = 52.84\%$$

$$\frac{S_1}{L} = 51.78\%$$

$$\frac{E}{L} = 51.78\%$$

Percentage from Table, Line A.

(corrected for absence of forecastle (if required))

Percentage from Table, Line B. *37.78%*

(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

$$\text{Deduction} = 42.00 \times .3778 = - 15.87"$$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<i>51.82</i>	1		<i>51.82</i>	<i>66</i>	<i>66.00</i>	1		<i>66.00</i>
1/4 L from A.P.	<i>23.06</i>	4		<i>92.24</i>	<i>29.62</i>	<i>29.62</i>	4		<i>118.48</i>
3/4 L "	<i>5.70</i>	2		<i>11.40</i>	<i>7.38</i>	<i>7.40</i>	2		<i>14.80</i>
Amidships		4					4		
3/4 L from F.P.	<i>11.40</i>	2		<i>22.80</i>	<i>14.97</i>	<i>15.01</i>	2		<i>30.02</i>
1/4 L "	<i>46.12</i>	4		<i>184.48</i>	<i>60.04</i>	<i>60.04</i>	4		<i>240.16</i>
F.P.	<i>103.65</i>	1		<i>103.65</i>	<i>138</i>	<i>138.00</i>	1		<i>138.00</i>
Total				<i>466.39</i>					<i>607.46</i>

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{141.07}{18} \left(\frac{.75 - .2642}{2} \right) = - 3.81"$$

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 = *32.63*Summer freeboard = *6.33*Moulded draught (d) = *26.30*

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = *6 1/2"*

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$

Tons per inch immersion at summer load water line

T =

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

=

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	<i>14.25</i>	
Deduction for superstructures		<i>15.87</i>
Sheer correction		<i>3.81</i>
Round of Beam correction		<i>.42</i>
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc.		
	<i>14.25</i>	<i>20.10</i>

Summer Freeboard = *76.11"*SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:— *6' 4"*

Tropical Fresh Water Line above Centre of Disc

Fresh Water Line " "

Tropical Line " "

Winter Line below " " *6 1/2"*

Winter North Atlantic Line " "

Tropical Fresh Water Freeboard

Fresh Water " "

Tropical " "

Winter " " *6' 10 1/2"*

Winter North Atlantic " "

1906 Freeboards
Re-assigned

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
			Upper deck	BRIDGE DECK	Upper Deck					
Description of Hatchway	...	...	No 1	No 2	No 3	No 4	No 5	No 6	No 7	No 8
Dimensions of Hatchway	...	...	22' 8" x 17' 1"	31' 5" x 17' 1"	11' 2" x 17' 1"	38' 11" x 17' 1"	22' 8" x 17' 1"	13' 6" x 17' 1"	13' 6" x 17' 1"	13' 6" x 17' 1"
COAMINGS	Height above Deck	...	30"	30"	30"	30"	30"	30"	30"	30"
	Thickness	Sides	5"	5"	5"	5"	5"	5"	5"	5"
	Thickness	Ends	5"	5"	5"	5"	5"	5"	5"	5"
	Stiffeners	...	7 x 3 B.A.	7 x 3 B.A.	7 x 3 B.A.	7 x 3 B.A.	7 x 3 B.A.	7 x 3 B.A.	7 x 3 B.A.	7 x 3 B.A.
	Brackets, Stays	...	2 DIA. RODS.	2 DIA. RODS.	2 DIA. RODS.	2 DIA. RODS.	2 DIA. RODS.	2 DIA. RODS.	2 DIA. RODS.	2 DIA. RODS.
HATCH BEAMS	Number	...	4	5	5	6	4	4	4	4
	Spacing	...	4' 6"	5' 3"	5' 7"	5' 13/4"	4' 6"	4' 6"	4' 6"	4' 6"
	Scantling and Sketch	...	4 x 3 x 40 O.A. 14 x 34 7 1/2 x 3 x 46 B.A.	4 x 3 x 44 O.A. 16 x 35 7 1/2 x 3 x 46 B.A.	4 x 3 x 40 O.A. 14 x 31 7 1/2 x 3 x 46 B.A.	4 x 3 x 40 O.A. 15 x 35 7 1/2 x 3 x 46 B.A.	4 x 3 x 40 O.A. 14 x 34 7 1/2 x 3 x 46 B.A.	4 x 3 x 40 O.A. 14 x 34 7 1/2 x 3 x 46 B.A.	4 x 3 x 40 O.A. 14 x 34 7 1/2 x 3 x 46 B.A.	4 x 3 x 40 O.A. 14 x 34 7 1/2 x 3 x 46 B.A.
	Bearing Surface	...	3"	3"	3"	3"	3"	3"	3"	3"
FORE AND AFTERS	Number	...								
	Spacing	...								
	Unsupported Lengths	...								
	Scantling and Sketch	...								
	Bearing Surface	...								
HATCH COVERS	Material	...	NW	FrA.	FrA.	FrA.	FrA.	FrA.	FrA.	FrA.
	Thickness	...	2 3/4"	3"	3"	3"	3"	3"	3"	3"
	How fitted	...	FrA.	FrA.	FrA.	FrA.	FrA.	FrA.	FrA.	FrA.
	Bearing Surface	...	3"	3"	3"	3"	3"	3"	3"	3"
Spacing of Cleats	...	...	24"	24"	24"	24"	24"	24"	24"	24"
Number of Tarpaulins	...	...	3	3	3	3	3	3	3	3

*Are wood fore and afters steel shod at all bearing surfaces? *yes*
 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? *yes*

Particulars of fiddle, funnel and ventilator coamings:— THE FIDLEY GRATINGS ARE FITTED WITH HINGED STEEL COVERS. THE FIDLEY & ENGINE ROOM VENTILATORS ARE GOOD. THE FUNNEL IS GOOD. THE ENGINE ROOM SKYLIGHT IS STEEL & IS IN GOOD CONDITION. BUNKER HATCH IS 9' x 5' 0" - 7" B.A. COAMING. CLEATS, BATTENS & MOOR COVERS IN GOOD CONDITION. 3 Tarpaulins.

Particulars of Flush Bunker Scuttles:—

- NONE -

Particulars of Companionways:—

None.

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

- 2 VENTILATORS ON FOCLE HEAD 36" HIGH - 9" DIA. TO FOCLE SPACE.
- 2 " " " 36" " - 20" " " HOLD SPACES
- 1 VENTILATOR " " " 36" " - 22" " " " "
- 8 VENTILATORS " FOREWELL DE 48" " - 18" " " " "
- 2 OF THESE IN VICINITY OF BRIDGE FORWARD BULK HEAD SUITABLY STAYED
- 7 VENTILATORS ON AFTER WELL DE 48" HIGH - 18" DIA. TO HOLD SPACES
- 2 OF THESE IN CENTRE OF DECK SUITABLY STAYED
- 1 VENTILATOR ON AFTER WELL DE 48" HIGH - 12" DIA. TO SHAFT TUNNEL
- 2 VENTILATORS ON AFTER WELL DE 48" HIGH - 18" DIA. WITH PATENT TOP TO HOLD SPACES
- 2 " " POOP DE 30" HIGH - 14" DIA. - TO CREW SPACE.
- 4 M.V.S. " " " 24" " - 8" " " " "
- 1 M.V. " " " 30" " - 10" " " " "
- 3 M.V.S. ON AFTER WELL DE - DERRICK POSTS - HEIGHT OF UPPER BDGE. DK. SUITABLY STAYED - TO ~~VENTILATORS~~ Deep Tanks
- 4 Vents on Bridge dk 36" high - 18" dia to Hold spaces
- 4 " " " 36 " - 14 " " Bunkers
- 2 M.V.S. on Bridge dk - derrick posts strongly constructed to Bunker spaces.

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

- 1 C.I. AIR PIPE ON FOCLE HEAD 33" HIGH - 2" DIA. TO F.P. TANK.
- 1 " " " 33" " - 2 1/2" " " D.B. Tanks
- 4 " " PIPES " FOREWELL DE 32" " - 2 1/2" " " D.B. TANKS.
- 7 " " " AFT " " - 32" " - 2 1/2" " " " "
- 1 " " PIPE " POOP DE 36" HIGH - 2 1/2" DIA. TO A.P. TANK.
- 6 " " " Bridge - 32 " - 2 1/2 " - D.B. Tanks.
- 2 " " " " 32 " - 2 " - " " "

all Comb Vent Coamings fitted with wood plugs & Canvas covers.

Particulars of Gangway Cargo and Coaling Ports:—

- NONE -



Particulars of Scuppers and Sanitary Discharge Pipes:—

Sanitary discharge pipes fitted with stem valve about 2-0 above upper deck from spaces above 44A & 44B
 9 - aft
 Scupper - Not - - - - - 3-0 below - - - - - 3-6 - Bridge deck from Bridge deck.

Particulars of Side Scuttles:—

SIDE SCUTTLES IN FO'LE SPACE ARE OF SUBSTANTIAL CONSTRUCTION AND ARE FITTED WITH C.I. DEADLIGHTS.
 also - - - Bridge & Poop & steering gear space - - -
 + Lanyards below upper deck aft.

Particulars of Guard Rails:—

ROUND FO'LE HEAD - 3-9" HIGH - 4-2" APART - 4 RAILS.
 " Poop deck 3-9 - 4-2 - 4 rods
 Steel bulwark on Bridge deck 3-6 high. B.G. Stays. Portable rails abreast BA 3 Hatch. 4 rods.

Particulars of Gangways, Lifelines, etc.:—

Crews accommodation in Poop Tween decks.
 Efficient lifelines & supports provided on Port
 & Starboard side of vessel in forward & after wells.

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 ...	105-9	48	36 x 17 42 x 17	2 } 3 }	21 1/4	20 3/4
Forward Well ...	94-7	47	30 x 17 42 x 17	2 } 3 }	20	19

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.

✓ hinges & steel shutter & 1 horizontal rail
 others with 2 horizontal rail only.

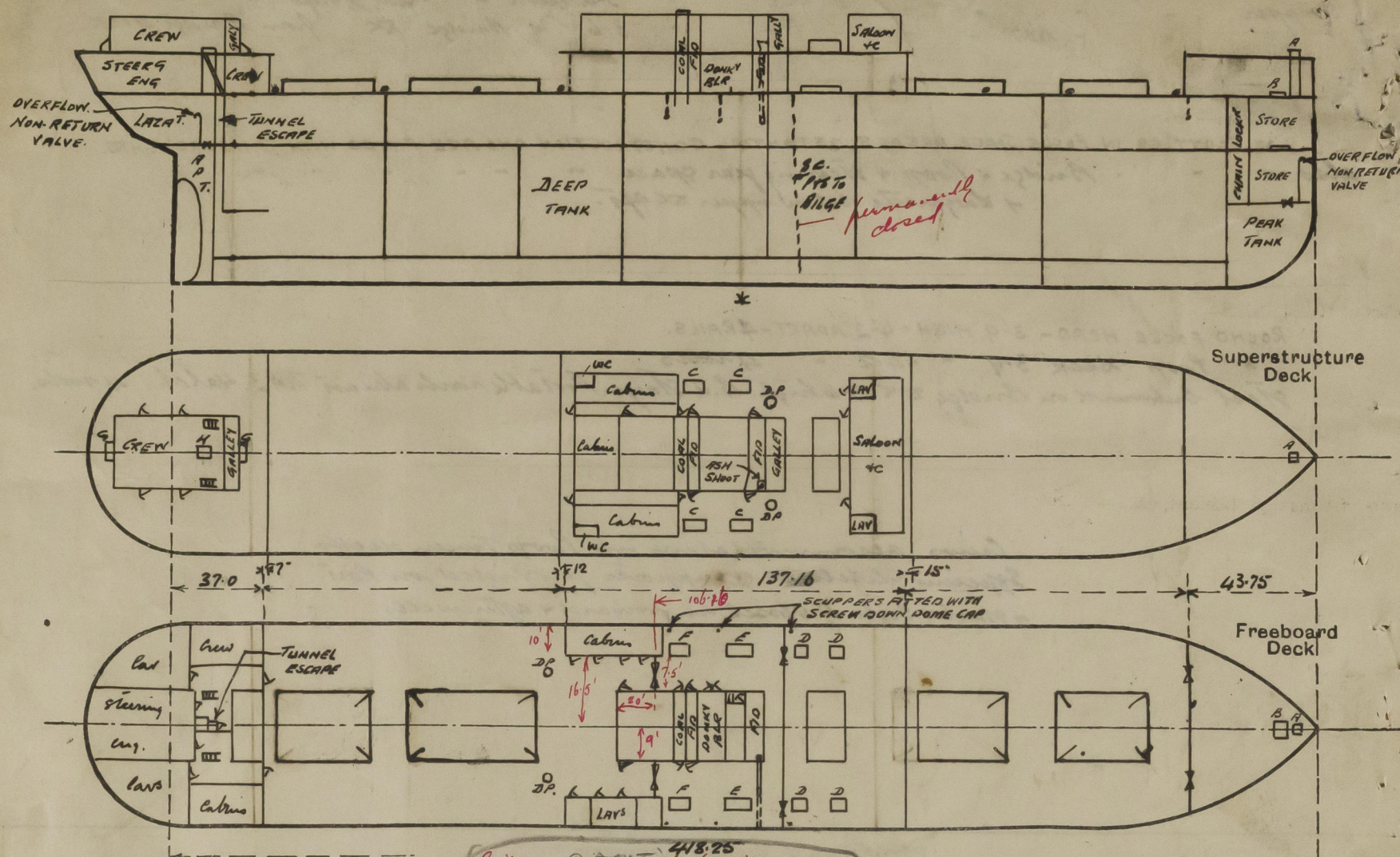
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ...	44"	40"	6 x 3 B.A.	30"	NONE	2-WOOD DOORS 59" x 27"	19"	7-11 1/2"
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead ...	vertical plating 34		3 x 3 x 38	30"	✓	70 x 63 59 x 24	18 1/2"	-
Bridge, Forward Bulkhead ...	44"	40"	9 x 3 x 50 A.A.	30"	BKTD. Tops Bottom	NONE	NONE	7-11 1/2"
Forecastle Bulkhead ...	32"	30"	4 1/2 x 3"	31"	NONE	2-OPENINGS 51" x 66"	14"	7-11 1/2"
Trunk, Aft ...								
Trunk, Forward ...								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	vertical plating 34	on outside	4 x 3 x 38	41"	all attached to transoms	57 x 30	18"	7-11 1/2"
Exposed Machinery Casings on Super-structure Decks ...	38"	38"	3 x 3 x 38	41"	knives at top	57 x 30	18" 15" above 57 x 30	7-3
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	vertical plating 34	on outside	4 x 3 x 38	41"	all attached to transoms	57 x 30 aft & fwd 64 x 52 central 57 x 60 central	18" 18" 26"	7-9 7-11 1/2"
Deckhouses on Flush Deck Ships ...								

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

Poop Bulkhead ...	WOOD HINGED DOORS MANIPULATED FROM BOTH SIDES.
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead & Deckhouse	wood doors. operated from both sides openings Channels & Boards 3" Full height, double vent angles 4 1/2 x 3 x 40 at Centre. 2 bolts this beam & coaming
Bridge, Forward Bulkhead ...	- NONE -
Forecastle Bulkhead ...	PORTABLE HOOK BOLTED PLATES.
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	double steel hinged doors. operated from both sides
Exposed Machinery Casings on Super-structure Decks ...	double steel hinged doors. operated from both sides
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	double steel hinged doors. operated from both sides aft & fwd. single - - - doors clip & 2 bolts on outside. central doors.
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:—



47:- Steel Brunked Hatch on Loh xx 30x23 1/2 Peak Vices,
Warming 18x. 30
Bolted Steel Cover. 40. 3/4 Bolts, 4 apart Uts

B. Hatch on upper ~~10x33~~ 36x38 to peak stones.
wearing 10x3. B. a
w.w. ~~2 1/2~~ 2 1/2 fitted thru
bearing 2 1/2.
Locking bar
Heats 28" apart.
2. Tarpan line

C. - looking hatches on Bridge B' 6.3 x 4.0
 Lanning 19' x 20'
 w.w. covers 23/4 fitted 70 a.
 also iron gratings.
 Rearing 2 1/2
 Chats 24' apart.
 3. Tarpanlines

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

D. - Transverse battens on upper $3\frac{1}{2} \times 48$ "
bearing $18\frac{1}{2} \times 36$ "
w. w. covers & iron gratings 3". 44a.
Bearing $2\frac{1}{2}$ "
cleats 21" apart.
2. Tarpauntins ✓

F:- Loading hatches on upper deck 8'6" x 55"
F:- " " " " " 6'6" x 55"
" " " " " 30' x 38"
w. w. covers & iron gratings. 2 3/4" thick.
Bearing 2 1/2".
Cleats 24" apart
2. Tarpauntine.

G:- Sky lights on poop Dec 52" x 24"
Steel Lanning, wood top
Warming 152" x 30
Bulkhead lights in wood flaps & at
side in forward sky light

4.- Hatch on poop ~~on~~ in side deckhouse 40x40"
 Lining 13x. 30"
 Grating cover in one piece 2"
 Rearing 2 1/2"
 Locking bar
 Cleats 24" apart
 1. Tarpaulin

man hole to fore & after peak
Tank. fitted with Bolted &
jointed plate cover.

ash short in former tidley on Starboard
side of Bridge. Sk. Hopper about 2'-0"
above deck, steel tube, 14" dia. led
down to starboard side to about 6'-0" below
upper deck. Hopper filled with kungies
steel cover, & clasp

Tunnel escape in Prop Turn DKS,
Steel trunk. Hinges wood doors
operated from both sides.

	draft.	head weight Tons.	
Load	26-t	9210	Light draft = 8.9
	26-0	8940	trippl = 3810 Tons.
	25-0	8400	
	24-0	7866	
	23-0	7330	

Survey when vessel afloat
for Freeboard assignment.

Builder's name and yard number

Thos^r Cammell Land Co. Ltd. No. 935

Names of sister ships

butractor, comedian, custodian, designer, observer, planter, rancher.

Owners

Charente S. S. Co. Ltd

Recorder, Logician

Fee £ 13 : 12 : 0

Received by me