

## REPORT ON MACHINERY.

No. 9363

17 JUN 1925

Date of writing Report

19

When handed in at Local Office

June 16<sup>th</sup> 1925 Port of Belfast.No. in Survey held at  
Reg. Book.

on the

Belfast.  
New Steel by S. S. InvercaigoDate, First Survey 27<sup>th</sup> Nov 1924 Last Survey 9<sup>th</sup> June 1925

(Number of Visits 37)

Tons  
Gross 2347  
Net 1234

When built 1925.

Master

Built at

Belfast.

By whom built

Harland &amp; Wolff Ltd

Engines made at

Glasgow

By whom made

A. J. Inglis Ltd

when made 1925

Boilers made at

Belfast

By whom made

Harland &amp; Wolff Ltd

when made 1925

Registered Horse Power

Owners

Pago Shipping Co Ltd

Port belonging to

London

Nom. Horse Power as per Section 28

196

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

## ENGINES, &amp;c.—Description of Engines (Twin) Triple Expansion

No. of Cylinders 6

No. of Cranks 6

Dia. of Cylinders

13 $\frac{1}{2}$  x 22 $\frac{1}{2}$  x 26

Length of Stroke

24

Revs. per minute

125

Dia. of Screw shaft

as per rule

as fitted

Material of

Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

yes

Is the after end of the liner made water tight

in the propeller boss

yes

If the liner is in more than one length are the joints burned

yes

If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

yes

If two

liners are fitted, is the shaft lapped or protected between the liners

yes

Length of stern bush 3'0" aft 1'9" fwd

Dia. of Tunnel shaft

as per rule

as fitted

6.85

Dia. of Crank shaft journals

as per rule

as fitted

4.19

Dia. of Crank pin

as per rule

as fitted

4.19

Size of Crank webs

18 x 14

Dia. of thrust shaft under

collars

as per rule

as fitted

4.18

Dia. of screw

9'0"

Pitch of Screw

9'6"

No. of Blades 4

State whether moveable

no

Total surface

28

each

propeller?

No. of Feed pumps 2

Diameter of ditto 24

Stroke 13 $\frac{1}{2}$ 

Can one be overhauled while the other is at work

yes

No. of Bilge pumps 2

Diameter of ditto 24

Stroke 13 $\frac{1}{2}$ 

Can one be overhauled while the other is at work

yes

No. of Donkey Engines 6

Sizes of Pumps 1 Ball Weirs 9 x 10 x 24

No. and size of Suctions connected to both Bilge and Donkey pumps

12 x 5 x 15. 2 oil fuel pumps 4 x 3 x 6

In Engine Room 1 @ 3 $\frac{1}{2}$ , 1 @ 7 $\frac{1}{2}$ , 2 @ 7 $\frac{1}{2}$  Cofferdams.In Holds, &c. 1 @ 3 $\frac{1}{2}$  in each cargo tank, 1 @7 $\frac{1}{2}$  cofferdam & 1 @ 7 $\frac{1}{2}$  pump room.

Holds carrying petroleum in bulk.

No. of Bilge Injections 2

sizes 4

Connected to condenser, or to circulating pump

CR.

Is a separate Donkey Suction fitted in Engine room &amp; size

yes

3 $\frac{1}{2}$ "

Are all the bilge suction pipes fitted with roses

yes

Are the roses in Engine room always accessible

yes

Are the sluices on Engine room bulkheads always accessible

yes

Are all connections with the sea direct on the skin of the ship

yes

Are they Valves or Cocks

Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

yes

Are the Discharge Pipes above or below the deep water line

above

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel

yes

Are the Blow Off Cocks fitted with a spigot and brass covering plate

yes

What pipes are carried through the bunkers

none

How are they protected

yes

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

yes

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

yes

Is the Screw Shaft Tunnel watertight

none

Is it fitted with a watertight door

yes

worked from

yes

25B

## BOILERS, &amp;c.—(Letter for record)

8

Manufacturers of Steel

D. Colville &amp; Sons Ltd.

Total Heating Surface of Boilers 2402

Is Forced Draft fitted

no

No. and Description of Boilers

Two single ended (2 S.E.)

Working Pressure 180 lbs

Tested by hydraulic pressure to

320 lbs

Date of test

24-4-25

No. of Certificate

862.

Can each boiler be worked separately

yes

Area of fire grate in each boiler

49

No. and Description of Safety Valves to

each boiler

Two spring loaded.

Area of each valve

9.62

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

2'0"

Mean dia. of boilers

14'3"

Length

10'6"

Material of shell plates

Steel

Thickness

1 $\frac{1}{2}$ "

Range of tensile strength

28 to 32 tons

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

D.R.

long. seams

I.R.D.B.S.

Diameter of rivet holes in long. seams

1 $\frac{1}{4}$ "

Pitch of rivets

8 $\frac{1}{8}$ "

Lap of plates or width of butt straps

18 $\frac{1}{8}$ "

Per centages of strength of longitudinal joint

rivets 85.0%

plate 93.4%

Working pressure of shell by rules

180 lbs

Size of manhole in shell

16 x 12

Size of compensating ring

20 x 4 x 30

No. and Description of Furnaces in each boiler

3 corrugated

Material

Steel

Outside diameter

3'4 $\frac{1}{2}$ "

Length of plain part

top

bottom

Thickness of plates

crown

bottom

Description of longitudinal joint

weld

No. of strengthening rings

yes

Working pressure of furnace by the rules

191 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

5 $\frac{1}{8}$ "

Back

5 $\frac{1}{8}$ "

Top

5 $\frac{1}{8}$ "

Bottom

3 $\frac{1}{4}$ "

Pitch of stays to ditto: Sides

8 $\frac{1}{2}$  x 8 $\frac{1}{2}$ 

Back

9 $\frac{1}{2}$  x 7 $\frac{1}{2}$ 

Top

8 x 8 $\frac{1}{2}$ 

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

188 lbs

Material of stays

Steel

Area at smallest part

1.46

Area supported by each stay

42.75

Working pressure by rules

210

End plates in steam space:

yes

Material of stays

Steel

Thickness

1 $\frac{1}{2}$ "

Pitch of stays

14 $\frac{1}{2}$  x 20 $\frac{1}{2}$ 

How are stays secured

N. W. D. W.

Working pressure by rules

182 lbs

Material of stays

Steel

Area at smallest part

6.33

Area supported by each stay

346

Working pressure by rules

182 lbs

Material of Front plates at bottom

Steel

Thickness

1 $\frac{1}{2}$ "

Material of Lower back plate

Steel

Thickness

1 $\frac{1}{2}$ "

Greatest pitch of stays

13 $\frac{1}{2}$  x 1 $\frac{1}{2}$ 

Working pressure of plate by rules

224

Diameter of tubes

3 $\frac{1}{4}$ "

Pitch of tubes

4 $\frac{1}{8}$  x 4 $\frac{1}{8}$ 

Material of tube plates

Steel

Thickness: Front

1 $\frac{1}{8}$ "

Back

1 $\frac{1}{8}$ "

Mean pitch of stays

11 $\frac{1}{4}$  x 8 $\frac{3}{4}$ 

Pitch across wide water spaces

14 $\frac{1}{4}$  x 8 $\frac{3}{4}$ 

Working pressures by rules

184 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

2 @ 8 $\frac{1}{4}$  x 3 $\frac{1}{4}$ 

Length as per rule

2'6 $\frac{1}{8}$ "

Distance apart

8 $\frac{1}{8}$ "

Number and pitch of stays in each

3 @ 8"

Working pressure by rules

215 lbs

Steam dome: description of joint to shell

none

% of strength of joint

yes

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

Pitch of rivets

Working pressure of shell by rules

Crown plates

Thickness

How stayed

Tested by Hydraulic Pressure to



ho

✓

*The foregoing is a correct description,*

FOR HARLAND AND WOLFF, LIMITED.

Festelbeck

*Manufacturer.*

Is the approved plan of main boiler forwarded herewith yes ✓  
with 1 set of drawings.

*General Remarks* (State quality of workmanship, opinions as to class, &c.)

The Machinery of this vessel has been built under Special Survey. Materials & Workmanship good Hydraulic tests satisfactory. The whole of the Machinery is efficiently installed & fixed in the vessel & has been tried under steam & is in good & safe working condition & eligible in my opinion to be classed and have records **LMC**.  
6-25 Yail shafts C.L. Eject St. Yitted for oil fuel 6-25 Ylash  
Point above 150° F.

It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC 6.25. CL

Fitted for oil fuel 6.25. F.P. above  $150^{\circ}\text{F}$ .

The amount of Entry Fee ...	£	Charged in <i>Diary</i>	When applied for,
Special ... <i>3/8</i>	£	29 : 8	0 ✓ <i>10 June 1925</i>
<i>Electric Light</i> Donkey Boiler Fee ...	£	10 : 0	0
Travelling Expenses (if any) £	✓	:	When received, <i>10/25</i>

### Committee's Minute

*Assigned*

TUES. 23 JUN 1925

+ Lumb. 6, 25

Fitted for oil fuel

William Luther.

*Engineer Surveyor to Lloyd's Register of Shipping.*

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above 1500<sup>00</sup> 2