

REPORT ON MACHINERY.

No. 23447

Received at London Office

TUES. 7 MAR 1911

Date of writing Report

1.3.11

When handed in at Local Office

1st Mar 1911

Port of

Hull

No. in Survey held at
Reg. Book.

Date, First Survey

Sep. 22ndLast Survey 25th Feby 1911

Clipped on the

Steel S. K. Beru

(Number of Visits 39)

Gross 195

Net 87

Master

Built at Selby

By whom built

Messrs Cochrane & Sons

When built 1911

Engines made at

By whom made

Messrs

when made 1911

Boilers made at

Hull

By whom made

Charles D. Holmes & Co. when made 1911

Registered Horse Power

Owners

Port belonging to Gumsby

Nom. Horse Power as per Section 28

64

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

No

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders

12¹/₂ - 22 - 35

Length of Stroke

24

Revs. per minute

110

Dia. of Screw shaft

as per rule 7.15

Material of

screw shaft

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

burned

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

If two

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

Length of stern bush

36

Dia. of Thrust shaft

as per rule 6.45

Dia. of Crank shaft journals

as per rule 6.75

Dia. of Crank pin

7

Size of Crank webs

13³/₈ x 4¹/₂

Dia. of thrust shaft under

collars

6¹/₂

Dia. of screw

8 - 7¹/₂

Pitch of Screw

10 - 6

No. of Blades

4

State whether moveable

No

No. of Feed pumps

1

Diameter of ditto

2¹/₂

Stroke

24

Can one be overhauled while the other is at work

No. of Bilge pumps

1

Diameter of ditto

2¹/₂

Stroke

24

Can one be overhauled while the other is at work

No. of Donkey Engines

One

Sizes of Pumps

2³/₄ x 5

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

In Engine Room

Two 2"

one 2¹/₂"

In Holds, &c. One 2" to stush well, one 2" to

No. of Bilge Injections

1

sizes

3

Connected to condenser, or to circulating pump pump

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

None

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

hold suction

How are they protected

wood casing

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

Dates of examination of completion of fitting of Sea Connections

1.2.11

of Stern Tube

1.2.11

Screw shaft and Propeller

1.2.11

Is the Screw Shaft Tunnel watertight

None

Is it fitted with a watertight door

Yes

worked from

—

BOILERS, &c.—(Letter for record

S)

Manufacturers of Steel

Phoenix A&I. Ges. A&I. Hoerde

Total Heating Surface of Boilers

10700

Is Forced Draft fitted

No

No. and Description of Boilers

One cyl. Mult. Sing. End.

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

12.12.10

No. of Certificate

1782

Can each boiler be worked separately

—

Area of fire grate in each boiler

33

No. and Description of Safety Valves to

each boiler

Two Spring

Area of each valve

Smallest distance between boilers or uptakes and bunkers or woodwork

5¹/₂

Mean dia. of boilers

12 - 6

Length

10 - 0

Material of shell plates

S

Thickness

1¹/₂

Range of tensile strength

28 - 32 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

L.D.

long. seams

D.B.S.T.R.

Diameter of rivet holes in long. seams

1¹/₂

Pitch of rivets

7

Lap of plates or width of butt straps

15

Per centages of strength of longitudinal joint

rivets 88.4

plate 84.82

Working pressure of shell by rules

186 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

7" x 1¹/₂"

No. and Description of Furnaces in each boiler

Two plain

Material

S

Outside diameter

43

Length of plain part

top 6' 3"

Thickness of plates

crown 4.9"

Description of longitudinal joint

Welded

No. of strengthening rings

0/partial

Working pressure of furnace by the rules

180 lbs

Combustion chamber plates: Material

S

Thickness: Sides

2³/₂

Back

1¹/₂

Top

Pitch of stays to ditto: Sides

10" x 9"

Back

10" x 9"

Top

10" x 8¹/₂"

If stays are fitted with nuts or riveted heads

No

Working pressure by rules

Material of stays

S

Diameter at smallest part

2.4

Area supported by each stay

110.25

Working pressure by rules

196 lbs

End plates in steam space:

Material

S

Thickness

1¹/₂"

Pitch of stays

17" x 17"

How are stays secured

D.N.W.

Working pressure by rules

Diameter at smallest part

5.78

Area supported by each stay

289

Working pressure by rules

208 lbs

Material of Front plates at bottom

S

Thickness

2³/₂"

Material of Lower back plate

S

Thickness

2³/₂"

Greatest pitch of stays

14¹/₂" x 9"

Working pressure of plate by rules

Diameter of tubes

3¹/₂"

Pitch of tubes

5" x 5"

Material of tube plates

S

Thickness: Front

2³/₂"

Back

Pitch across wide water spaces

15"

Working pressures by rules

248 lbs

Girders to Chamber tops: Material

S

Depth and

thickness of girder at centre

9" x 13¹/₄"

Working pressure by rules

263 lbs

Superheater or Steam chest; how connected to boiler

Can the superheater be shut off and the boiler worked

separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

holes

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

If stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

W1390-0034

Lloyd's Register
Foundation

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No.	Description	Made at	By whom made	When made	Where fixed
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
If fitted with easing gear	If steam from main boilers can enter the donkey boiler	Dia. of donkey boiler	Length		
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams		
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint	Rivets Plates
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint	
Working pressure of furnace by rules	Thickness of furnace crown plates	Radius of do.	Stayed by		
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:—Two each top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set coupling bolts and nuts, one set each air circulating feed and barge pump valves, 3 condenser tubes, 6 junk ring studs, Iron various sizes, two safety valve springs, 3 boiler tubes, 3 escape valve springs.

The foregoing is a correct description,
p. pro CHARLES D. HOLMES & CO. LTD. Manufacturer.

During progress of work in shops --
Dates of Survey while building
During erection on board vessel --
Total No. of visits 39.

Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 9.11.10 Slides 20.12.10 Covers 20.12.10 Pistons 7.12.10 Rods 15.12.10
Connecting rods 2.12.10 Crank shaft 28.11.10 Thrust shaft 28.11.10 Tunnel shafts Screw shaft 27.1.11 Propeller 27.1.11
Stern tube 27.1.11 Steam pipes tested 20.2.11 Engine and boiler seatings 1.2.11 Engines holding down bolts 22.2.11
Completion of pumping arrangements 24.2.11 Boilers fixed 22.2.11 Engines tried under steam 24.2.11
Main boiler safety valves adjusted 22.2.11 Thickness of adjusting washers 7/16 - 6/16
Material of Crank shaft 5 Identification Mark on Do. 725 Material of Thrust shaft 5 Identification Mark on Do. 725
Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts 9 Identification Marks on Do. 725
Material of Steam Pipes Solid drawn copper Test pressure 400 lbs per sq. inch

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boiler of this vessel have been constructed under special survey in accordance with the Society's Rules, the materials & workmanship are sound and good. The boiler tested by hydraulic pressure, and with the engines secured on board and tested under steam they are now in good order, and safe working condition and respectfully submitted as being eligible in my opinion to be classed with the notation of L.M.C.2.11 in the Register Book

It is submitted that this vessel is eligible for THE RECORD, + LMC 2.11.

JWD. 7/3/11

The amount of Entry Fee .. £ 1 : : When applied for.
Special .. £ 10 : : 6-3-1911
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ 8 : : 31-3-1911

Committee's Minute

FRI. 10 MAR 1911

Assigned

+ LMC 2.11

James Barclay
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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MACHINERY CERTIFICATE
WRITTEN