

REPORT ON MACHINERY.

No. 16046

WED. 7 JUN 1911

Received at London Office

Date of writing Report

19

When handed in at Local Office

1/6/10 Port of Greenock

No. in Survey held at

Port Glasgow

Reg. Book.

Date, First Survey 104 Nov. 1910. Last Survey 21st May 1911.(Number of Visits 6th)

Gross 583.

on the SCREW STEAMER PORT of LONDON AUTHORITY HOPPER No. 9.

Net 224.

Master

Built at Port Glasgow.

By whom built Ferguson Bros.

When built 1911.

Engines made at

Port Glasgow

By whom made

Ferguson Bros.

when made

1911.

Boilers made at

Port Glasgow

By whom made

Glyde Shipb. & Engineers 67 Lime

when made

1911.

Registered Horse Power

88.

Owners

Port of London Authority

Port belonging to

London

Nom. Horse Power as per Section 28

133.

Is Refrigerating Machinery fitted for cargo purposes

No.

Is Electric Light fitted

No.

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders Three

No. of Cranks Three

Dia. of Cylinders

15¹/₂—25¹/₂—42

Length of Stroke

24

Revs. per minute

120

Dia. of Screw shaft

as per rule 8¹/₄"

Material of

screw shaft

Steel

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

No.

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

No.

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

4' 1"

Dia. of Tunnel shaft

as per rule 4' 6"

Dia. of Crank shaft journals

as per rule 4' 9"

Dia. of Crank pin

8' 4"

Size of Crank webs

15' 2" x 5' 4"

Dia. of thrust shaft under

collars

8' 4"

Dia. of screw

9' 9"

Pitch of Screw

11' 3"

No. of Blades

4

State whether moveable

Yes

Total surface

29.1 sq. ft.

No. of Feed pumps

2

Diameter of ditto

5' 2"

Stroke

15"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

3"

Stroke

13¹/₂"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

One

Sizes of Pumps

6' x 6' x 6'

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

In Engine Room

Stokehold 3' x 2' 2" dia

In Holds, &c.

Fore Hold: One—2' dia.

Forward Compartments

2' x 2' dia

After Compartments

2' x 2' dia

No. of Bilge Injections

1

sizes

5"

Connected to condenser, or to circulating pump

C. P.

Is a separate Donkey Suction fitted in Engine room & size

Yes: 2¹/₂"

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

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

Awaish

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

Forward Suctions

How are they protected

Cased in

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

17/4/11

of Stern Tube

14/4/11

Screw shaft and Propeller

17/4/11

Is the Screw Shaft Tunnel watertight

Yes.

Is it fitted with a watertight door

Yes.

worked from

BOILERS, &c.—(Letter for record S)

Manufacturers of Steel

Steel 67 of Scotland

Total Heating Surface of Boilers

2500

Is Forced Draft fitted

No.

No. and Description of Boilers

2: Cylindrical: Single

Working Pressure

180 lbs.

Tested by hydraulic pressure to

360 lbs.

Date of test

24/3/11.

No. of Certificate

999

Can each boiler be worked separately

Yes.

Area of fire grate in each boiler

40 sq. ft.

No. and Description of Safety Valves to

each boiler

2: Direct Spring

Area of each valve

3' 98"

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

4' 6"

Mean dia. of boilers

11' 9"

Length

10' 6"

Material of shell plates

Steel

Thickness

1' 16"

Range of tensile strength

28 to 32 tons

Are the shell plates welded or flanged

No.

Descrip. of riveting: cir. seams

Lap Double

long. seams

Double Butt Strap

Diameter of rivet holes in long. seams

1' 8"

Pitch of rivets

8"

4"

Lap of plates or width of butt straps

16' 4"

Per centages of strength of longitudinal joint

rivets 87%

plate 85.9%

Working pressure of shell by rules

201 lbs.

Size of manhole in shell

16" x 12"

Size of compensating ring

4' 4" Keel's Ring

No. and Description of Furnaces in each boiler

2: Deighton's

Material Steel

Outside diameter

48' 4"

Length of plain part

top 6' 9' 76"

Thickness of plates

crown 1' 18"

bottom 32"

Description of longitudinal joint

Weld.

No. of strengthening rings

None

Working pressure of furnace by the rules

195 lbs.

Combustion chamber plates: Material Steel

Thickness: Sides

5' 8"

Back

5' 8"

Top

5' 8"

Bottom

1' 8"

Pitch of stays to ditto: Sides

8' 4" x 8' 4"

Back

8' 4" x 9"

Top

8' 4" x 7"

If stays are fitted with nuts or riveted heads

Nuts.

Working pressure by rules

188 lbs.

Material of stays

Steel

Diameter at smallest part

1' 5' 6"

Area supported by each stay

4' 2"

Working pressure by rules

255 lbs.

End plates in steam space:

Material Steel

Thickness

1' 16"

Pitch of stays

16" x 16"

How are stays secured

Double Nuts

Working pressure by rules

194 lbs.

Material of stays

Steel

Diameter at smallest part

3' 2"

Area supported by each stay

2440"

Working pressure by rules

228 lbs.

Material of Front plates at bottom

Steel

Thickness

1' 16"

Material of Lower back plate

Steel

Thickness

2' 8"

Greatest pitch of stays

13' 4"

Working pressure of plate by rules

182 lbs.

Material of tube plates

Steel

Thickness: Front

1' 16"

Back

1' 16"

Mean pitch of stays

11' 4"

Pitch across wide water spaces

13' 4"

Working pressures by rules

180 lbs.

186 lbs.

Girders to Chamber tops: Material Steel

Depth and

thickness of girder at centre

8' 4" x 1' 1/2"

Length as per rule

29' 9/16"

Distance apart

8"

Working pressure by rules

207 lbs.

Superheater or Steam chest; how connected to boiler

None

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

Yes.

Lloyd's Register

Foundation

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	Stayed by			
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:— 1 Propeller Blade, 6 Propeller Blade Studs, 1 Set Condensing Bolts, 1 Piston Rod, 1 Air pump rod, 2 main Bearing Bolts, 2 Crosshead Bolts, 2 Crank pin Bolts, 12 Jack Ring Studs, 1 Set Crank pin Bushes, 1 Set Feed pump valves & seats, 1 Set Air pump valves & studs, 1 Set Bilge pump valves, 1 Set Packing Rings for each piston, 24 Condenser tubes & 8 Ferrules for same, 2 main feed check valves, 2 Donkey Feed check valves.
The foregoing is a correct description, quantities, of bolts as above specified.
J. J. Gurney
Manufacturer.

Dates of Survey while building	During progress of work in shops - -	1910. Nov. 10-15-18-23-25-27. Dec. 2-5-7-13-16-17-24-25-26-28-29. 1911. Jan 6-11-13-18-23-24-27-30. Feb. 1-3-7-10-16.
	During erection on board vessel - -	21-24-28. Mar. 2-6-9-14-17-20-24-27-31. April 4-6-11-13-14-17-19-20-24-27-29. May 4-6-8-10-11-16-17-22-23-27-29.
	Total No. of visits	64.

Is the approved plan of main boiler forwarded herewith Geo. ✓

Dates of Examination of principal parts—Cylinders 28/12/10 Slides 10/2/11 Covers 23/5/11 Pistons 10/2/11 Rods 4/4/11
Connecting rods 4/4/11 Crank shaft 14/3/11 Thrust shaft 14/3/11 Tunnel shafts ✓ Screw shaft 4/4/11 Propeller 4/4/11
Stern tube 14/3/11 Steam pipes tested 6/5/11 Engine and boiler seatings 14/4/11 Engines holding down bolts 16/5/11
Completion of pumping arrangements 22/5/11 Boilers fixed 16/5/11 Engines tried under steam 23/5/11
Main boiler safety valves adjusted 16/5/11 Thickness of adjusting washers *Starke Boiler* *Port Boiler*
P.L. 3 1/2" S.P. 3 1/2" S.P. 3 1/2" S.P. 3 1/2" S.P. 3 1/2"
Material of Crank shaft *Steel* Identification Mark on Do. 1003. Material of Thrust shaft *Steel* Identification Mark on Do. 61
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *Steel* Identification Marks on Do. 71
Material of Steam Pipes *Copper S.O.* ✓ Test pressure 1400 lbs ✓

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

The Engines and Boilers of this vessel have been built under Special Survey, and the materials and workmanship are good. When completed they were examined when running full power trials and found to work satisfactorily.

The machinery throughout is now in good and efficient condition and eligible in my opinion to have the record of **LMC. 5, 11.** marked in the Society's Register Book

It is submitted that
this vessel is eligible for
THE RECORD + LMC 5.11.

The amount of Entry Fee..	£ 2 : . :	When applied for,
Special	£ 19 . 19 :	2/4 1911
Donkey Boiler Fee	£ : :	When received,
Travelling Expenses (if any) £	: :	5/6 1911

Committee's Minute *Glasgow* 6 - JUN. 1911
Assigned + LMC 571

Wm. Austin.
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

BOONMERY CERTIFICATE

7/6/11



Lloyd's Register
Foundation