

Rpt. 4.

REPORT ON MACHINERY.

No. 16606

WED. FEB. 18. 1914

Received at London Office

Date of writing Report

10

When handed in at Local Office

14/2/14 Port of Greenock

No. in Survey held at
Reg. Book.

Greenock.

Date, First Survey 25th Feb 1913. Last Survey 12th Feb 1914.

(Number of Visits 54.)

on the SCREW STEAMER "ARDGARRY."

Master Pearson.

Built at Port Glasgow.

By whom built Russell & Co.

Engines made at Greenock.

By whom made Rankin & Blackmore.

when made

1914.

Boilers made at Greenock.

By whom made Rankin & Blackmore.

when made

1914.

Registered Horse Power

Owners

Port belonging to Greenock

Nom. Horse Power as per Section 28 361.

Is Refrigerating Machinery fitted for cargo purposes No.

Is Electric Light fitted Yes.

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders Three

No. of Cranks Three

Dia. of Cylinders 25"-41"-68".

Length of Stroke 48".

Revs. per minute 70.

Dia. of Screw shaft

as per rule 14.5"

Material of

screw shaft 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 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 59"

Dia. of Tunnel shaft

as per rule 12.49"

Dia. of Crank shaft journals

as per rule 13.3"

Dia. of Crank pin 13.3"

Size of Crank webs 19" x 8.5"

Dia. of thrust shaft under

collars 13.3"

Dia. of screw 13.6"

Pitch of Screw 14.6"

No. of Feed pumps 2

Diameter of ditto 3.5"

Stroke 24"

Can one be overhauled while the other is at work Yes.

No. of Bilge pumps 2

Diameter of ditto 4"

Stroke 24"

Can one be overhauled while the other is at work Yes.

No. of Donkey Engines Two.

Sizes of Pumps 8" x 6" x 8"

9" x 11.5" x 12"

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

In Engine Room Three - 3.5" dia.

In Holds, &c. No. 1 HOLD. 2-3.5" dia.

No. 2 HOLD. 2-3.5" dia.

TUNNEL WELL. 1-2.5" dia.

No. of Bilge Injections 1

sizes 5.5"

Connected to condenser, or to circulating pump C.P.

Is a separate Donkey Suction fitted in Engine room & size Yes. 2.5"

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 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

How are they protected

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 22/12/13 of Stern Tube 22/12/13 Screw shaft and Propeller 22/12/13

Is the Screw Shaft Tunnel watertight Yes.

Is it fitted with a watertight door Yes.

worked from

upper platform.

BOILERS, &c.—(Letter for record)

Manufacturers of Steel

Steel 67 of Scotland &c.

Total Heating Surface of Boilers 5451 sq. ft.

Is Forced Draft fitted No.

No. and Description of Boilers 3 Cylinders Multi Single

Working Pressure 180 lbs.

Tested by hydraulic pressure to 360 lbs.

Date of test 11/12/13

No. of Certificate 1154

Can each boiler be worked separately Yes.

Area of fire grate in each boiler 59 sq. ft.

No. and Description of Safety Valves to

each boiler 2 Direct Spring

Area of each valve 7.06 sq. in.

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 About 20"

Mean dia. of boilers 14.6"

Length 11.0"

Material of shell plates Steel

Thickness 1.5"

Range of tensile strength 29-32 tons

Are the shell plates welded or flanged No.

Descrip. of riveting: cir. seams Lap Double

long. seams Butt Shape

Diameter of rivet holes in long. seams 1.5"

Pitch of rivets 8.5" x 4.5"

Lap of plates or width of butt straps 18.5"

Per centages of strength of longitudinal joint

rivets 88.5%

plate 86%

Working pressure of shell by rules 180 lbs.

Size of manhole in shell 16" x 12"

Size of compensating ring Plate flanged

No. and Description of Furnaces in each boiler 3: Furnaces

Material Steel

Outside diameter 46.5"

Length of plain part

top 7' 0.5"

Thickness of plates

crown 2.5"

bottom 2.5"

Description of longitudinal joint Weld

Working pressure of furnace by the rules 184 lbs.

Combustion chamber plates: Material Steel

Thickness: Sides 5"

Back 5"

Top 5"

Bottom 5"

Pitch of stays to ditto: Sides 9.5" x 8"

Back 9.5" x 8"

Top 9.5" x 8"

If stays are fitted with nuts or riveted heads Auto.

Material of stays Steel

Diameter at smallest part 1.5"

Area supported by each stay 4.16 sq. in.

Working pressure by rules 191 lbs.

End plates in steam space:

Material Steel

Thickness 1.5"

Pitch of stays 20.5" x 20"

How are stays secured 8.5 lbs. Auto.

Working pressure by rules 186 lbs.

Diameter at smallest part 3.5"

Area supported by each stay 4.16 sq. in.

Working pressure by rules 180 lbs.

Material of Front plates at bottom Steel

Thickness 1.5"

Material of Lower back plate Steel

Thickness 2.5"

Greatest pitch of stays 13"

Working pressure of plate by rules 181 lbs.

Diameter of tubes 3.5"

Pitch of tubes 4.5" x 4.5"

Material of tube plates Steel

Thickness: Front 1.5"

Back 1.5"

Mean pitch of stays 9"

Pitch across wide water spaces 13.5"

Working pressures by rules 224 lbs.

Girders to Chamber tops: Material Steel

Depth and

thickness of girder at centre 8.5" x 10.5" x 1.5"

Length as per rule 32.6"

Distance apart 9.5"

Number and pitch of stays in each 3: 9.5"

Working pressure by rules 183 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

Lloyd's Register

Foundation

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. *None* 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
 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:— 1 Propeller & shaft 3 Cylinder escape valves & springs 12 Shaft
 Coupling Bolts, 2 Conn Rod Bolts 2 Piston Rod Bolts 2 Main Bearing Bolts 6 Holding down Bolts
 6 Pump Ring Bolts 6 Cylinder Cover Studs 1 Valve Chest Cover Studs 2 Feed Pump valves 2 Bilge Pump valves
 1 Set Air Pump valves 1 set Circulating Pump valves, 1 set Feedcheck valves 1 Feed escape valve & spring 12 Bolts
 12 Condenser tubes, 3 Safety valve springs 4 Set of 2 1/2 inch
 20 Lamp frames, Bolts & nuts assorted & also of various sizes

The foregoing is a correct description,

James Macdonald

Manufacturer.

Dates of Survey while building During progress of work in shops -- 1913 Feb 25 Mar 4 Apr 10 14 21 23 May 16 June 3 5 24 Aug 8 18 25 Sept 1 4 16 19 23
 During erection on board vessel -- Oct 2 7 14 17 20 23 28 29 31 Nov 4 7 11 13 18 24 26 Dec 2 9 11 16 18 22 30 31 1914 Jan 9 12 15 16 19
 Total No. of visits 54

Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders 2/10/13 Slides 7/10/13 Covers 12/12/14 Pistons 2/12/13 Rods 2/12/13
 Connecting rods 20/10/13 Crank shaft 6/11/13 Thrust shaft 23/10/13 Tunnel shafts 18/12/13 Screw shaft 18/12/13 Propeller 9/12/13
 Stern tube 7/11/13 Steam pipes tested 19/21/1/14 Engine and boiler seatings 19/1/14 Engines holding down bolts 19/1/14
 Completion of pumping arrangements 4/2/14 Boilers fixed 4/2/14 Engines tried under steam 12/2/14
 Main boiler safety valves adjusted 4/2/14 Thickness of adjusting washers S.B. 1/2 5/16 C.B. 1/4 5/16 P.B. 1/4 5/16
 Material of Crank shaft Steel Identification Mark on Do. 373 Material of Thrust shaft Steel Identification Mark on Do. 1244
 Material of Tunnel shafts Steel Identification Marks on Do. 1245 Material of Screw shafts Steel Identification Marks on Do. 1246
 Material of Steam Pipes Wrought iron Test pressure 540 lbs

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

The Engines and Boilers of this vessel were built under Special Survey and the materials and workmanship are good. When completed they were examined under steam 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.2.14** marked in the Society's Register Book.

It is submitted that
 this vessel is eligible for
 THE RECORD. ***LMC.2.14**

The amount of Entry Fee .. £ 3 : : : When applied for.
 Special £ 38 : 1 : : 14/2/1914
 Donkey Boiler Fee £ - : : : When received.
 Travelling Expenses (if any) £ - : : : 17/2/1914

Committee's Minute GLASGOW 17 FEB. 1914

Assigned ***LMC.2.14**

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

FEB. 17 JAN 1930



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 Foundation

GREENOCK

Certificate (if required) to be sent to

(The Surveyor and Registrar not to write on or below the space for Committee's Minute.)