

REPORT ON MACHINERY.

No. 17095.

Received at London Office FRI. JAN. 5-1917

Date of writing Report 30/12/16 When handed in at Local Office 30/12/16 Port of Greenock
 No. in Survey held at Port Glasgow. Date, First Survey 24. 3. 15. Last Survey 24. 12. 1916.
 Reg. Book. on the S.S. "ARDEGASK" (Number of Visits 114.)
 Master C. M. Pearson. Built at Port Glasgow. By whom built Russell & Co.
 Engines made at Port Glasgow. By whom made The Clyde F & S Co Ltd when made 1917.
 Boilers made at do By whom made do when made 1917.
 Registered Horse Power 470 Owners Steamship Advertising Co Ltd. Port belonging to Greenock.
 Nom. Horse Power as per Section 28 470 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes.

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 26"-42"-70" Length of Stroke 48" Revs. per minute 70 Dia. of Screw shaft as per rule 14.74 Material of Iron
 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 No If two
 liners are fitted, is the shaft lapped or protected between the liners No Length of stern bush 5'-0"
 Dia. of Tunnel shaft as per rule 12.98 Dia. of Crank shaft journals as per rule 13.63 Dia. of Crank pin 13 1/2" Size of Crank webs 25" x 8 1/2" Dia. of thrust shaft under
 collars 13 1/2" Dia. of screw 18-3 Pitch of Screw 1 1/2" No. of Blades 4 State whether moveable No Total surface 100 sq ft
 No. of Feed pumps 1 Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work No
 No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 3 Sizes of Pumps 9 1/2" x 12, 8 x 6 x 10, 7 x 9 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4 @ 3 1/2" In Holds, &c. 8 @ 3 1/2" 1 @ 2 1/2" TUNNEL WELL

No. of Bilge Injections 1 sizes 8" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 3 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 No
 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 24/10/16 of Stern Tube 24/10/16 Screw shaft and Propeller 24/10/16
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top of gratings

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Stewart & Lloyds
 Total Heating Surface of Boilers 7035 sq ft Is Forced Draft fitted Yes No. and Description of Boilers Three single ended.
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 17/7/16 No. of Certificate 1258
 Can each boiler be worked separately Yes Area of fire grate in each boiler 56.3 sq ft No. and Description of Safety Valves to
 each boiler Two spring loaded Area of each valve 8.29 sq in Pressure to which they are adjusted 180 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 3'-0" Mean dia. of boilers 14'-9" Length 11'-6" Material of shell plates Steel
 Thickness 1 1/8" Range of tensile strength 28/32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams P.R.L.
 long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 1 1/2"
 Per centages of strength of longitudinal joint 85.3% Working pressure of shell by rules 180 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring 39" x 27" x 1 1/2" No. and Description of Furnaces in each boiler 3 furnaces Material Steel Outside diameter 47 1/4"
 Length of plain part top 7'-0" bottom 7'-0" Thickness of plates top 7/8" bottom 7/8" Description of longitudinal joint Welded No. of strengthening rings 1
 Working pressure of furnace by the rules 187 lbs Combustion chamber plates: Material Steel Thickness: Sides 9/8" Back 9/8" Top 9/8" Bottom 9/8"
 Pitch of stays to ditto: Sides 8 1/2" x 8 1/2" Back 8 1/2" x 8 1/2" Top 8 1/2" x 8 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 189 lbs
 Material of stays Steel Diameter at smallest part 1 1/8" Area supported by each stay 71 sq in Working pressure by rules 194 lbs End plates in steam space:
 Material Steel Thickness 1 1/8" Pitch of stays 17 1/2" x 15 1/2" How are stays secured J. Nuts Working pressure by rules 199 lbs Material of stays Steel
 Diameter at smallest part 5.27" Area supported by each stay 276 sq in Working pressure by rules 199 lbs Material of Front plates at bottom Steel
 Thickness 9/8" Material of Lower back plate Steel Thickness 27/32" Greatest pitch of stays 14" Working pressure of plate by rules 186 lbs
 Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" Material of tube plates Steel Thickness: Front 9/8" Back 9/8" Mean pitch of stays 9.57"
 Pitch across wide water spaces 13 1/2" Working pressures by rules 185 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 9 1/2" x 1 1/2" Length as per rule 37.5" Distance apart 8 3/8" Number and pitch of stays in each 3 @ 8 1/2"
 Working pressure by rules 185 lbs Superheater or Steam chest; how connected to boiler No Can the superheater be shut off and the boiler worked
 separately No Diameter No Length No Thickness of shell plates No Material No Description of longitudinal joint No Diam. of rivet
 holes No Pitch of rivets No Working pressure of shell by rules No Diameter of flue No Material of flue plates No Thickness No
 If stiffened with rings No Distance between rings No Working pressure by rules No End plates: Thickness No How stayed No
 Working pressure of end plates No Area of safety valves to superheater No Are they fitted with easing gear No

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 main beams, 2 connecting rods, 2 piston rods, 6 holding down bolts & nuts, 12 shaft coupling bolts & nuts, 6 pump ring bolts, 6 cyl caps, 6 valve chest studs, 2 feed pump valves, 2 large pump valves, 1 feed escape valve, 1 set air pump valves, 1 set feed check valves, 1 propeller, 12 boiler tubes, 12 condenser tubes, 120 condenser females, 1 safety valve spring, a quantity of assorted bolts & nuts & iron of various sizes. 13 cylinder escape valves & springs.

The foregoing is a correct description,

THE CLYDE SHIPBUILDING & ENGINEERING CO. LIMITED,

R. Gilbey Turnbull

Manufacturer.

Director.

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

Dates of Examination of principal parts—Cylinders 5/7/16 Slides 5/7/16 Covers 25/7/16 Pistons 24/7/16 Rods 5/7/16
Connecting rods 24/7/16 Crank shaft 25/7/16 Thrust shaft 24/10/16 Tunnel shafts 24/10/16 Screw shaft 25/9/16 Propeller 25/7/16
Stern tube 24/10/16 Steam pipes tested 22/12/16 Engine and boiler seatings 30/10/16 Engines holding down bolts 9/11/16
Completion of pumping arrangements 26/12/16 Boilers fixed 26/12/16 Engines tried under steam 27/12/16
Main boiler safety valves adjusted 26/12/16 Thickness of adjusting washers P $\frac{5}{8}$ " 5 $\frac{1}{2}$ " P $\frac{5}{8}$ " 5 $\frac{1}{2}$ " P $\frac{5}{8}$ " 5 $\frac{1}{2}$ "
Material of Crank shaft Steel Identification Mark on Do. 149 Material of Thrust shaft Steel Identification Mark on Do. 149
Material of Tunnel shafts Steel Identification Marks on Do. 149 Material of Screw shafts IRON Identification Marks on Do. 149
Material of Steam Pipes IRON Test pressure 600 lbs. ✓

Is an installation fitted for burning oil fuel

Is the flash point of the oil to be used over 150° F.

Have the requirements of Section 49 of the Rules been complied with

Is this machinery duplicate of a previous case

General Remarks (State quality of workmanship, opinions as to class, &c.) The engines & boilers of this vessel have been built under special survey, and the materials & workmanship are good. On completion they were examined while running full power trials in the Port & found satisfactory.

The machinery throughout is now in good & efficient condition & eligible in my opinion to have the record L.M.C. I. 17. marked in the Briet's Register Book. When the collision checks for the main boilers have been examined it is stated that there will be cleared for examination at Bang to which port the vessel has now proceeded. The Bang surveyors have been advised.

The amount of Entry Fee ... £ 2-0-0
Special ... £ 43-15-0
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 30. 12. 1916.
When received, 15. 1. 1917.

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

Committee's Minute

GLASGOW

3 - JAN. 1917

FRI. 12. JAN. 1917

Assigned Deferred for compl.

+ L.M.C. I. 17

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