

REPORT ON MACHINERY.

No. 34999

Received at London Office

WED. JUL. 31. 1918

Date of writing Report 12th July 1918 When handed in at Local Office 23rd July 1918 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 14th Aug 1916 Last Survey 9th July 1918
 Reg. Book. on the "S.S. Ardgarthan" (Number of Vessels 58)

Master Campbelltown Built at Campbelltown By whom built Campbelltown S.B.C. Ltd Tons Not Gross 1918
 Engines made at Glasgow By whom made Ross & Duncan Ings No 1021 when made 1918
 Boilers made at Glasgow By whom made Ross & Duncan Boilers Nos 1529-30 when made 1918
 Registered Horse Power 142 Owners Lang & Fulton Ltd Port belonging to Greenock
 Nom. Horse Power as per Section 28 142 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 18 x 27 1/2 x 45 Length of Stroke 33 Revs. per minute 80 Dia. of Screw shaft 9 1/8 as per rule 9 1/8 as fitted 9 1/8 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 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 40"
 Dia. of Tunnel shaft 8 1/8 as per rule 8 1/8 as fitted 8 1/8 Dia. of Crank shaft journals 9 1/8 as per rule 9 1/8 as fitted 9 1/8 Dia. of Crank pin 9 1/2 Size of Crank webs 17 1/2 x 6 1/2 Dia. of thrust shaft under collars 9 3/8 Dia. of screw 12-1" Pitch of Screw 13-6" No. of Blades 4 State whether moveable no Total surface 52 sq
 No. of Feed pumps 2 Diameter of ditto 3" Stroke 16 1/2" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 3" Stroke 16 1/2" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines Three Sizes of Pumps 2 off 6 x 4 1/2 x 6: 1 off 7 x 9 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Three 2 1/4" dia. Tunnel, one 2 1/4" In Holds, &c. Fore hold. Two - 2 1/4" dia after hold, one 2 1/2" dia
 No. of Bilge Injections 1 size 4" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size Yes 2 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 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 Forward bilge suction How are they protected Boxed 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 Greenock Rpt of Stern Tube Greenock Rpt Screw shaft and Propeller Greenock Rpt
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Steel Co of Scotland
 Total Heating Surface of Boilers 2386 Is Forced Draft fitted no No. and Description of Boilers 2 built Single ended
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 28th 31. May 1918 No. of Certificate 14312-14313
 Can each boiler be worked separately Yes Area of fire grate in each boiler 39.5 sq No. and Description of Safety Valves to each boiler Two spring loaded Area of each valve 3.96 sq Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers compartments and bunkers or woodwork 9" dia. of boilers 11-6" Length 10-6" Material of shell plates S
 Thickness 3/32" Range of tensile strength 28-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams L.P.R.
 long. seams 8 Straps T.P. Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 6 7/8" Top of plates or width of butt straps 17 1/2"
 Per centages of strength of longitudinal joint rivets 88.5 Working pressure of shell by rules 180 lbs Size of manholes in shell 16 x 12"
 Size of compensating ring 7 x 3/32" No. and Description of Furnaces in each boiler Two Pelton type Material S Outside diameter 46 1/4"
 Length of plain part top bottom 7 1/6" Thickness of plates 9 1/6" Description of longitudinal joint weld No. of strengthening rings none
 Working pressure of furnace by the rules 190 lbs Combustion chamber plates: Material S Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 11/16"
 Pitch of stays to ditto: Sides 8 3/4 x 7 3/4" Back 8 3/4 x 8 1/4" Top 8 2 x 7 3/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 187
 Material of stays S Area at smallest part 1.76 Area supported by each stay 72 sq Working pressure by rules 217 End plates in steam space: Material S Thickness 3/32" Pitch of stays 16 3/4 x 14 1/2" How are stays secured D.N. Thread Working pressure by rules 180 lbs Material of stays S
Area at smallest part 4.43 Area supported by each stay 248 Working pressure by rules 186 Material of Front plates at bottom S
 Thickness 27/32" Material of Lower back plate S Thickness 27/32" Greatest pitch of stays 13 1/2 x 8 3/4" Working pressure of plate by rules 190
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/4 x 4 3/8" Material of tube plates S Thickness: Front 27/32" Back 3/4" Mean pitch of stays 9.9
 Pitch across wide water spaces 14 Working pressures by rules 206 Girders to Chamber tops: Material S Depth and thickness of girder at centre 7 3/4 x 13 1/4" Length as per rule 30 7/8 Distance apart 8 1/2" Number and pitch of stays in each Three 7 1/2"
 Working pressure by rules 182 Superheater or Steam chest; how connected to boiler Yes Can the superheater be shut off and the boiler worked separately Yes Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet holes Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes
 If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes
 Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

Yes

SPARE GEAR.

State the articles supplied:— 2 each of top & bottom end, main bearing bolts, one set of coupling bolts, 1 set of feed & bilge pump valves, assorted nuts, bolts & rivets.

The foregoing is a correct description,

Ross & Duncan

per R.E.K.

Manufacturer.

Dates of Survey while building

During progress of work in shops
During erection on board vessel
Total No. of visits

16 Aug. 14 Oct. 21 Nov. 2 13 23 29 Dec. 5 11 19 27 Jan. 9 18 22 Feb. 24 12 14 23 Mar. 5 9 16 20 24 Apr. 18 Aug. 30 1918 Jan. 11 14 Feb. 14 25
12 21 24 29 Apr. 4 5 9 15 22 27 May 23 4 7 8 10 14 14 20 23 24 28 30 June 1 10 14 25 July 1 5 6 9
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Is the approved plan of main boiler forwarded herewith

Yes

Dates of Examination of principal parts—Cylinders 12-3-18 Slides 12-3-18 Covers 21-3-18 Pistons 21-3-18 Rods 8-5-18

Connecting rods 7-5-18 Crank shaft 27-3-18 Thrust shaft 3-5-18 Tunnel shafts 3-5-18 Screw shaft 2-5-18 Propeller 27-4-18

Stern tube 14-5-18 Steam pipes tested 25-6-18 Engine and boiler seatings Greenock Engines holding down bolts 25-6-18

Completion of pumping arrangements 9-7-18 Boilers fixed 25-6-18 Engines tried under steam 9-7-18

Main boiler safety valves adjusted 5-7-18 Thickness of adjusting washers Port Bolts 7/16" P. 7/16" S. 7/16" S. 7/16" P. 7/16" S.

Material of Crank shaft Identification Mark on Do. 27-3-18 W.P.H. Material of Thrust shaft Identification Mark on Do. 3-5-18 J.E.S.

Material of Tunnel shafts Identification Marks on Do. 3-5-18 J.E.S. Material of Screw shafts Identification Marks on Do. 2-5-18 W.P.H.

Material of Steam Pipes Seames Copper. 3 3/4" Int dia to 7 1/2" Test pressure 360 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? If so, state name of vessel. S. Redriff. Glas Rpt No. 36681.

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

These engines & boilers have been built under Special Survey, the materials and workmanship are sound and good.

They have been fitted on board in an efficient manner, tried under working conditions with satisfactory results and are eligible in my opinion to be classed in the Register Book with the notation of

L.M.C. 7-18.

It is submitted that this vessel is eligible for

+ L.M.C. 7.18

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