

# REPORT ON MACHINERY

No. 19326  
WED. JUL. 10. 1918

Received at London Office

Date of writing Report 25<sup>th</sup> June 1918 When handed in at Local Office 1 July 1918 Port of Greenock

No. in Survey held at 2nd Glasgow & Greenock Date, First Survey 8<sup>th</sup> June, 1915: Last Survey 5<sup>th</sup> July 1918.  
Reg. Book. on the Steel Steamer Ardgowan (Number of Visits 10)

Master Built at 2nd Glasgow By whom built W Hamilton & Co Tons } Gross 5334  
Net 3415  
When built 1910.

Engines made at Greenock By whom made John S Kincaid & Co when made 1910.

Boilers made at Greenock By whom made Rankin & Macdonald Ltd when made 1910.

Registered Horse Power Owners Ardgowan Ltd Glasgow Port belonging to Greenock.

Nom. Horse Power as per Section 28 476 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

## ENGINES, &c.—Description of Engines Triple Compound No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 27-44-73 Length of Stroke 48 Revs. per minute 65 Dia. of Screw shaft as per rule 14.95 Material of screw shaft as fitted 16.5 (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 No If two liners are fitted, is the shaft lapped or protected between the liners No Length of stern bush 64

Dia. of Tunnel shaft as per rule 13.85 Dia. of Crank shaft journals as per rule 14.0 Dia. of Crank pin 14 Size of Crank webs 21.9 Dia. of thrust shaft under collars 14 Dia. of screw 18.5 Pitch of Screw 18.6 No. of Blades 4 State whether moveable No Total surface 106.78

No. of Feed pumps 2 Diameter of ditto 7 Stroke 24 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 Stroke 27 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 15-10-5-5 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Three 3/2 In Holds, &c. Light 3/2 Heavy 5/2

No. of Bilge Injections 2 sizes 8 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 2 1/2 (Amended - see sketch No 89056 (August 1932) Report).

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 - 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

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from 7th stokehold

## BOILERS, &c.—(Letter for record S) Manufacturers of Steel See Report attached hereto.

Total Heating Surface of Boilers 6697.5 Is Forced Draft fitted Yes No. and Description of Boilers Two Single End

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 20.22/5/10 No. of Certificate 1342-1343

Can each boiler be worked separately Yes Area of fire grate in each boiler 79.54 No. and Description of Safety Valves to each boiler Two Spring Area of each valve 12.56 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 10 Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Material of stays Area at smallest part Area supported by each stay Working pressure by rules End plates in steam space:

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Area at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules Steam dome: description of joint to shell % of strength of joint

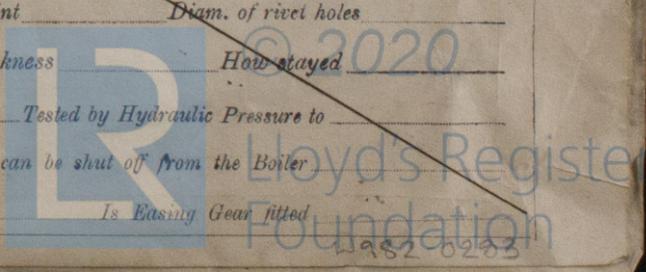
Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

## SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted



IS A DONKEY BOILER FITTED?

Yes

If so, is a report now forwarded?

Yes

SPARE GEAR. State the articles supplied:— Two top end bolts. Two bottom end bolts. Two main bearing bolts. One lat coupling bolts. One lat feed pump valves. One lat ridge pump valves. Sashells. Bolt nuts. Three cylinder escape valves and springs. Lat safety valve spring. &c.

The foregoing is a correct description, FOR JOHN G. KINCAID & COY., LIMITED.

Robert Green Secretary. Manufacturer.

Dates of Survey while building (1915) June 8-15-25-29. Aug. 11-26. Sep. 6-9. Dec. 2 (1916) Feb. 8-11. Mar. 7-13. Apr. 3-5-7-13-14-19-20-28. May 1-4-19-23. June 12. July 17-20. Aug. 10. Oct. 17. Nov. 10-14-17-27. Dec. 6-8 (1917) Jan. 10-19-22. Apr. 4. May 2-4-11-14-28. June 6. Oct. 24. Nov. 12-26-30 (1918) Jan. 3-5-7-10-11-12-14-18-19-25. July 1-3-4. Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 17/4/18 Slides 23/5/18 Covers 17/4/18 Pistons 23/5/18 Rods 17/5/18 Connecting rods 17/5/18 Crank shaft 29/5/18 Thrust shaft 24/4/18 Tunnel shafts 29/5/18 Screw shaft 17/5/18 Propeller 7/6/18 Stern tube 20/5/18 Steam pipes tested 10/6/18 Engine and boiler seatings 29/5/18 Engines holding down bolts 7/6/18 Completion of pumping arrangements 7/6/18 Boilers fixed 7/6/18 Engines tried under steam 5/7/18 Completion of fitting sea connections 17/4/18 Stern tube 29/5/18 Screw shaft and propeller 12/6/18 Main boiler safety valves adjusted 24/6/18 Thickness of adjusting washers 3 9/16 - 5 9/16 Material of Crank shafts Identification Mark on Do. 23040 Material of Thrust shaft Identification Mark on Do. 2570 Material of Tunnel shafts Identification Marks on Do. 23481C Material of Screw shafts Identification Marks on Do. 6854 Material of Steam Pipes Test pressure 600 lb Is an installation fitted for burning oil fuel Yes 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 No Ardgoil

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

This vessel is fitted to carry fuel oil above 150°F in the double bottom and deep tank. The requirements have been complied with

The machinery and boiler of this vessel have been constructed under special survey and placed on board in accordance with the Society's Rules. They are now in my opinion in safe working condition, and the case is respectfully submitted for the investigation, + LMC 7.18. F.D. + the vessel to carry fuel oil above 150°F in the double bottom and deep tank. in the Register Book.

See Damage Report attached hereto regarding Sashell Shaft. It is submitted that this vessel is eligible for THE RECORD. + LMC 7.18. F.D.

Table with columns for fee type (Entry Fee, Special, Donkey Boiler Fee, Travelling Expenses) and amount (£ 3 : 0, £ 43 : 16, £ 3 : 3, £). Includes dates for application (19th June 1918, 8th July 1918) and receipt (21st June 1918).

Greenock

Committee's Minute GLASGOW 9 JUL 1918 Assigned + LMC 7.18 F.D.

Signature of Engineer Surveyor to Lloyd's Register of Shipping. Includes Lloyd's Register of Shipping logo and copyright notice © 2020.