

Rpt. 4.

REPORT ON MACHINERY

Std. No. 29371
Gls. No. 40172
THU. JUL. 15 1920

Received at London Office

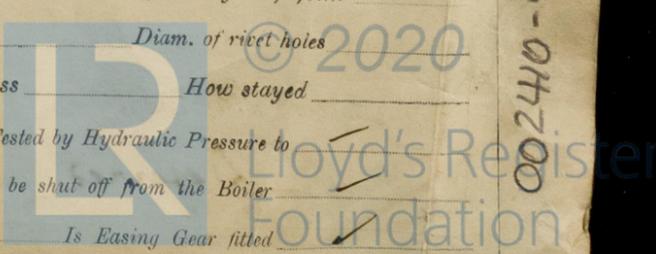
Date of writing Report 19 When handed in at Local Office 10-7-20 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 3-6-19. Last Survey 22-6-1920.
 Reg. Book. on the Engines & Boilers for SS Bymess (Number of Visits 32)
 Master Built at Barcelona By whom built J.L. Thompson & Sons S/N 550 Tons { Gross 1896
 Engines made at Glasgow By whom made Ineson & Rowan 60 h.p. (No 739) when made 1920
 Boilers made at No. By whom made No. (No 739) when made 1920
 Registered Horse Power Owners Messrs Joseph & Thompson Ltd. belonging to Sunderland
 Nom. Horse Power as per Section 28 213 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 20-33-54 Length of Stroke 36 Revs. per minute Dia. of Screw shaft as per rule 11.7 as fitted 11.8 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 continuous 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 — Length of stern bush 4-0
 Dia. of Tunnel shaft as per rule 9.7 as fitted 9.94 Dia. of Crank shaft journals as per rule 10.1 as fitted 10.43 Dia. of Crank pin 10.1 Size of Crank webs 20 1/2 x 6 3/4 Dia. of thrust shaft under collars 10 3/4 Dia. of screw 14-3 Pitch of Screw 14-3 No. of Blades 4 State whether moveable No Total surface 63.6 ft²
 No. of Feed pumps 2 Diameter of ditto 3 Stroke 18 Can one be overhauled while the other is at work —
 No. of Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 18 Can one be overhauled while the other is at work —
 No. of Donkey Engines 3 Sizes of Pumps 8 1/2 x 8, 8 x 10 x 8, 8 1/2 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 3 @ 2 1/2 In Holds, &c. No 1 Hold - 2 @ 2 1/2 No 2 Hold - 2 @ 2 1/2
 No. of Bilge Injections 1 sizes 6 Connected to condenser, or to circulating pump Bilge Injection Is a separate Donkey Suction fitted in Engine room & size Yes 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 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 hold suction How are they protected Under timberboards
 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 Top platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Beardmore 60 h.p. Lomax & Co. Ltd. Steel 60 h.p. 2 SB
 Total Heating Surface of Boilers 3600 ft² Is Forced Draft fitted No No. and Description of Boilers 2 Single ended
 Working Pressure 180 lb/sq. in. Tested by hydraulic pressure to 360 lb/sq. in. Date of test 13-2-20 No. of Certificate 15099
 Can each boiler be worked separately Yes Area of fire grate in each boiler 53.5 ft² No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 5.94 sq. in. Pressure to which they are adjusted 185 Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 20 Mean dia. of boilers 13-9 Length 10-6 Material of shell plates Steel
 Thickness 1 3/32 Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap
 long. seams TR DBS Diameter of rivet holes in long. seams 1 1/4 Pitch of rivets 8.187 Lap of plates or width of butt straps 18 1/2
 Per centages of strength of longitudinal joint rivets 82 plates 85 Working pressure of shell by rules 182 Size of manhole in shell 6 x 12
 Size of compensating ring area flanged No. and Description of Furnaces in each boiler 3 Corrugated Material Steel Outside diameter 3-7/32
 Length of plain part top Thickness of plates crown 3/32 bottom 5/8 Description of longitudinal joint Weld No. of strengthening rings —
 Working pressure of furnace by the rules 181 Combustion chamber plates: Material Steel Thickness: Sides 1/16 Back 1/16 Top 1/16 Bottom 1/16
 Pitch of stays to ditto: Sides 9 3/4 x 8 3/4 Back 10 3/8 x 8 Top 10 x 7 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 190
 Material of stays Steel Area at smallest part 1.730 Area supported by each stay 86 Working pressure by rules 182 End plates in steam space:
 Material Steel Thickness 1/8 Pitch of stays 16 1/2 x 8 How are stays secured Nuts Working pressure by rules 182 Material of stays Steel
 Area at smallest part 5.93 Area supported by each stay 21.0 Working pressure by rules 188 Material of Front plates at bottom Steel
 Thickness 7/8 Material of Lower back plate Steel Thickness 25/32 Greatest pitch of stays 13 1/4 Working pressure of plate by rules 180
 Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 3/8 Material of tube plates Steel Thickness: Front 7/8 Back 27/32 Mean pitch of stays 11 1/8
 Pitch across wide water spaces 14 Working pressures by rules 188 Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 9 x 13/16 (2) Length as per rule 2-7 1/2 Distance apart 10 Number and pitch of stays in each (3) 7 1/2
 Working pressure by rules 184 Steam dome: description of joint to shell None % 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

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THE MARGIN.

002440-002447-0089



IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded? *no*

SPARE GEAR. State the articles supplied:—

Two connecting rod top and bottom end bolts and nuts, two main bearing bolts, one set of coupling bolts, one set of feed and bilge pump valves, iron and bolts of various sizes.

The foregoing is a correct description,

David Rowan & Co. Ltd. per Alex Sand Manufacturer.

Dates of Survey while building: During progress of work in shops: 1919 June 3 July 14 Oct 1-15-16 Nov 3-5-20 Dec 1-21-24. During erection on board vessel: 1920 Jan 12-20-28 Feb 10-12-13-16-17 Mar 1-2-12-22-25 Apr 19-28 May 13-15-17-24 June 7-22. Total No. of visits: 32

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

Dates of Examination of principal parts: Cylinders 20.1.20 Slides 20.1.20 Covers 20.1.20 Pistons 16.2.20 Rods 10.2.20 Connecting rods 12.3.20 Crank shaft 17.2.20 Thrust shaft 30.3.20 Tunnel shafts 22.3.20 Screw shaft 7.6.20 Propeller 7.6.20 Stern tube 28.4.20 Steam pipes tested 14.4.24 Engine and boiler seatings 7.4.24 Engines holding down bolts 14.4.24 Completion of pumping arrangements 14.4.24 Boilers fixed 14.4.24 Engines tried under steam 16.4.24 Completion of fitting sea connections 7.4.24 Stern tube 8.4.24 Screw shaft and propeller 9.4.24 Main boiler safety valves adjusted Thickness of adjusting washers Material of Crank shaft Steel Identification Mark on Do. 739 17.2.20 Material of Thrust shaft Steel Identification Mark on Do. 739 30.3.20 Material of Tunnel shafts Steel Identification Marks on Do. 10. 14. 19. 20 8X 22.3.20 TM Material of Screw shafts Steel Identification Marks on Do. 739 7.6.20 Material of Steam Pipes Lapwelded. Wrot. Iron Test pressure 60 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? *Yes* If so, state name of vessel *no 740*

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

The materials and workmanship are good. The Engines and Boilers have been constructed under Special Survey in accordance with the Rules and approved Plans, they have been forwarded to Barcelona where they are to be fitted to the vessel, and when this has been done to the satisfaction of the Society's Surveyors the machinery will, in our opinion, be eligible to be Classed + LMC with date

SUNDERLAND (22-7-24) The machinery was returned to this port, cleaned, overhauled, examined and found good. (Please see Repair Report attached)

It has now been satisfactorily fitted in the vessel and is eligible in my opinion for Classification and the Record + LMC 2-27.

The amount of Entry Fee ... £ 2 : 0 : When applied for, Special ... £ 23 : 0 : 17.5.19 20. Donkey Boiler Fee ... £ as per Secy's LTR-E.31-7-23 - 10 : 10 : Who received, 19.5.19 20 Travelling Expenses (if any) £

Committee's Minute GLASGOW 14 JUL 1920

Assigned Deferes.

S. Davis and Arthur M. Murray Engineer Surveyor to Lloyd's Register of Shipping.

TUES. 8 FEB 1921

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Lloyd's Register Foundation

GLASGOW

The Stowage certificate (if required) to be sent to