

# REPORT ON MACHINERY

No. 15270

Received at London Office MON OCT 22 1917

Date of writing Report 19.10.17 When handed in at Local Office 20.10.17 Port of Lith  
 No. in Survey held at Lith Date, First Survey 18.11.14 Last Survey 10.10.1917  
 Reg. Book. on the S/S Darino (Number of Visits 36)  
 Master C. A. Gove Built at Lith By whom built Kamase, Ferguson & Co Tons } Gross 1433.62  
 Engines made at Lith By whom made Kamase, Ferguson & Co Net 886.48  
 Boilers made at Lith By whom made Kamase, Ferguson & Co When built 1917  
 Registered Horse Power Owners The Ellerman Wilson Line Ltd. Port belonging to Hull  
 Nom. Horse Power as per Section 28 203 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

**ENGINES, &c.**—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 16 1/2, 28 1/4, 48 1/2 Length of Stroke 33 Revs. per minute 100 Dia. of Screw shaft as per rule 10.18 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 3-11 1/2  
 Dia. of Tunnel shaft as per rule 9.04 Dia. of Crank shaft journals as per rule 9.45 Dia. of Crank pin 9 5/8 Size of Crank webs 4 1/2 x 6 1/2 Dia. of thrust shaft under collars 9 5/8 Dia. of screw 12-6 Pitch of Screw 12-6 No. of Blades 4 State whether moveable No Total surface 53 5/8  
 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 1/2 Stroke 16 1/2 Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 2 Sizes of Pumps 5 x 3 x 5 + 6 x 6 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 3 2 1/4 In Holds, &c. In No. 1 + 2 holds 2, 2 1/4 each. In No. 3 hold  
 No. of Bilge Injections 1 sizes 4 3/4 Connected to condenser, or to circulating pump Yes 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 No  
 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 Below  
 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 Bilge suction pipes How are they protected Strong wood casings  
 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 14/6/17 of Stern Tube 9/7/17 Screw shaft and Propeller 9/7/17  
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper platform

**BOILERS, &c.**—(Letter for record S) Manufacturers of Steel Dunlop & Co of Scotland  
 Total Heating Surface of Boilers 2976 5/8 Is Forced Draft fitted Yes No. and Description of Boilers 2 Single end  
 Working Pressure 210 lbs Tested by hydraulic pressure to 420 lbs Date of test 11.8.15 No. of Certificate 731  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 37 5/8 No. and Description of Safety Valves to each boiler 2 Spring valves Area of each valve 5.9 Pressure to which they are adjusted 215 lbs Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 12 Mean dia. of boilers 11-9 Length 11-6 Material of shell plates S  
 Thickness 1 1/8 Range of tensile strength 25-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap & AB  
 long. seams AB & riv. Diameter of rivet holes in long. seams 1 3/16 Pitch of rivets 8 7/16 Lap of plates or width of butt straps 17 5/8  
 Per centages of strength of longitudinal joint rivets 85 Working pressure of shell by rules 212 Size of manhole in shell 16 x 12  
 Size of compensating ring 6 x 1 1/8 No. and Description of Furnaces in each boiler 2 Morrison Material S Outside diameter 44 1/4  
 Length of plain part top 19 Thickness of plates crown 3 1/8 Description of longitudinal joint Weld No. of strengthening rings —  
 bottom 3 3/8 Working pressure of furnace by the rules 214 Combustion chamber plates: Material S Thickness: Sides 5/8 Back 5/8 Top 5/8 Bottom 3/4  
 Pitch of stays to ditto: Sides 7 1/4 x 7 1/4 Back 8 x 7 3/4 Top 7 1/4 x 8 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 217  
 Material of stays S Diameter at smallest part 1.73 Area supported by each stay 62 Working pressure by rules 223 End plates in steam space: Material S Thickness 1 Pitch of stays 16 x 13 3/8 How are stays secured AB & W Working pressure by rules 210 Material of stays S  
 Diameter at smallest part 4.57 Area supported by each stay 223 Working pressure by rules 213 Material of Front plates at bottom S  
 Thickness 3/2 Material of Lower back plate S Thickness 7/8 Greatest pitch of stays 13 1/2 Working pressure of plate by rules 215  
 Diameter of tubes 2 1/2 Pitch of tubes 3 3/4 x 3 3/4 Material of tube plates S Thickness: Front 27/32 Back 13/16 Mean pitch of stays 7 1/2 x 4 1/4  
 Pitch across wide water spaces 14 Working pressures by rules 261 Girders to Chamber tops: Material S Depth and thickness of girder at centre 9 3/8 x 1 3/4 Length as per rule 2.9 Distance apart 8 1/2 Number and pitch of stays in each 3, 7 1/4  
 Working pressure by rules 212 Superheater or Steam chest; how connected to boiler — Can the superheater be shut off and the boiler worked separately Yes  
 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 —

W 452-0135

IS A DONKEY BOILER FITTED? *yes*

If so, is a report now forwarded? *yes*

SPARE GEAR. State the articles supplied:—

*Two top end, two bottom end connecting rod bolts and nuts, two main bearing bolts, one set coupling bolts one set fuel & bilge pump valves, assorted bolts and nuts. Lots of various sizes.*

The foregoing is a correct description,

**RAMAGE & FERGUSON, Limited.**

*Wm. J. Ramsay*  
Manufacturer.

Dates of Survey while building { During progress of work in shops -- } *1914. Nov. 18. Dec. 2, 18. 1915. Jan. 9, 22. Feb. 5, 15, 22. Mar. 5, 16, 25. Apr. 5, 21. May 25, June 4, 19. July 12. Aug. 4, 11. Sept. 16. Oct. 26. 1916. Jan. 7, 1917. Jan. 25, Feb. 9, Apr. 19, June 14, 28. July 9, 10.*  
{ During erection on board vessel --- } *1917. July 19, Aug. 6, Sept. 4, 25, Oct. 10.*  
Total No. of visits *36*

Is the approved plan of main boiler forwarded herewith *yes*  
" " " donkey " " " *yes*

Dates of Examination of principal parts—Cylinders *25/5/15* Slides *16/3/15* Covers *16/3/15* Pistons *21/4/15* Rods *25/3/15*  
Connecting rods *25/3/15* Crank shaft *12/5/16* Thrust shaft *25/3/15* Tunnel shafts *12/5/15* Screw shaft *25/1/17* Propeller *4/8/15*  
Stern tube *28/6/17* Steam pipes tested *23/8/17* Engine and boiler seatings *4/9/17* Engines holding down bolts *4/9/17*  
Completion of pumping arrangements *25/9/17* Boilers fixed *25/9/17* Engines tried under steam *25/9/17*  
Main boiler safety valves adjusted *25/9/17* Thickness of adjusting washers *St. Boiler P 3/8 5/8 P 5/8 5/8*  
Material of Crank shaft *S* Identification Mark on Do. *337GAH* Material of Thrust shaft *S* Identification Mark on Do. *337GAH*  
Material of Tunnel shafts *S* Identification Marks on Do. *337GAH* Material of Screw shafts *S* Identification Marks on Do. *337GAH*  
Material of Steam Pipes *Steel* Test pressure *630 lbs sq*

Is an installation fitted for burning oil fuel *no* 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 *no*. If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)  
*The machinery of this vessel has been built under special survey. The materials and workmanship are sound and good and under the vessel class in my opinion to have record of L.M.C. 10.17*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 10.17.

*H.W.D.*  
*23/10/17*

The amount of Entry Fee ... £ *2* : :  
Special ... £ *30* : *3* :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, *20.10.1917*  
When received, *25.10.1917*

*W. H. Staker*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *TUE. OCT. 23 1917*  
Assigned *+ L.M.C. 10.17*

Certificate (if required) to be sent to  
The Surveyors are requested not to write on or below the space for Committee's Minute.

