

REPORT ON MACHINERY.

Port of Glasgow.

Received at London Office JULY 23 AUG 1904

No. in Survey held at Glasgow Date, first Survey 28th March Last Survey 4th Aug 1904
 Reg. Book. 7818 "Dalmuir" (Number of Visits 24)
 on the Pat. McFarlane Built at Glasgow. By whom built W. Beardmore & Co. Ltd. When built 1904
 Engines made at Glasgow By whom made Do. when made 1904
 Boilers made at Do. By whom made Do. when made 1904
 Registered Horse Power 158 Owners Glasgow Corporation Port belonging to Glasgow.
 Nom. Horse Power as per Section 28 158 Is Refrigerating Machinery fitted No. Is Electric Light fitted No.

ENGINES, &c. — Description of Engines Twin Triple expansion No. of Cylinders 6 No. of Cranks 6
 Dia. of Cylinders 2 (14" 22" 37") Length of Stroke 24" Revs. per minute 124 Dia. of Screw shaft 7.375" Material of screw shaft 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 — 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 space If two liners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 2.7"
 Dia. of Tunnel shaft 7.5" Dia. of Crank shaft journals 7.5" Dia. of Crank pin 7.4" Size of Crank webs 13.5 x 5.5" Dia. of thrust shaft under collars 7.4" Dia. of screw 8.6" Pitch of screw 11.0" No. of blades 4 State whether moveable No Total surface 28.8
 No. of Feed pumps 2 Diameter of ditto 2.75" Stroke 13" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 2.75" Stroke 13" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps 10" x 10" x 10" No. and size of Suctions connected to both Bilge and Donkey pumps 6" x 4.5" x 6"
 In Engine Room 4 at 2.5" In Holds, &c. Aft hold 2 at 2" Fore hold 2 at 2"
tunnel tunnel wells 2 at 2"
 No. of bilge injections 2 sizes 4 Connected to condenser, or to circulating pump Yes Is a separate donkey suction fitted in Engine room & size Yes 3"
 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 Tur mains How are they protected wood casing
 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
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock not docked Is the screw shaft tunnel watertight Yes
 Is it fitted with a watertight door Yes worked from Main deck

BOILERS, &c. — (Letter for record (7)) Total Heating Surface of Boilers 2604 Is forced draft fitted No
 No. and Description of Boilers two cyl: single ended Working Pressure 180 lb. Tested by hydraulic pressure to 360 lb.
 Date of test 29.5.04 Can each boiler be worked separately Yes Area of fire grate in each boiler 49.5 No. and Description of safety valves to each boiler 1 double spring loaded Area of each valve 4.9 Pressure to which they are adjusted 185 lb. Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 9" Mean dia. of boilers 12.5" Length 10.3" Material of shell plates Steel
 Thickness 1/2" Range of tensile strength 29-32 Are they welded or flanged No Descrip. of riveting: cir. seams DR lap long. seams T R lapped
 Diameter of rivet holes in long. seams 1.3/16" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 17 7/8"
 Per centages of strength of longitudinal joint rivets 92.1 plate 95.4 Working pressure of shell by rules 186 lb. Size of manhole in shell 17" x 12 1/2"
 Size of compensating ring McNeil No. and Description of Furnaces in each boiler 3 Motion Material Steel Outside diameter 3.4 1/2"
 Length of plain part top 1/2" bottom 1/2" Thickness of plates crown 1/2" bottom 1/2" Description of longitudinal joint welded No. of strengthening rings ✓
 Working pressure of furnace by the rules 188 lb. Combustion chamber plates: Material Steel Thickness: Sides 7/16" Back 9/16" Top 9/16" Bottom 13/16"
 Pitch of stays to ditto: Sides 8" x 7" Back 9" x 6" Top 8" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 182 lb.
 Material of stays Iron Diameter at smallest part 1.99" Area supported by each stay 59" Working pressure by rules 257 lb. End plates in steam space: Material Steel Thickness 1/16" Pitch of stays 16 1/2" x 15 1/2" How are stays secured S. nuts Working pressure by rules 247 lb. Material of stays Steel
 Diameter at smallest part 5.41" Area supported by each stay 255.75" Working pressure by rules 213 lb. Material of Front plates at bottom Steel
 Thickness 7/8" Material of Lower back plate Steel Thickness 13/16" Greatest pitch of stays 12 1/2" Working pressure of plate by rules 189 lb.
 Diameter of tubes 3 1/2" Pitch of tubes 4 1/2" x 4 3/8" Material of tube plates Steel Thickness: Front 7/8" Back 3/4" Mean pitch of stays 10.6"
 Pitch across wide water spaces 14 1/2" + 1/2" comb. Working pressures by rules 180 lb. 240 lb. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 2 (8 1/2" x 3/4") Length as per rule 2.6" Distance apart 8" Number and pitch of Stays in each 2.7 1/2"
 Working pressure by rules 198 lb. Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked separately —
 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

Lloyd's Register Foundation
 003013-003017-0082

DONKEY BOILER— No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____

No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____

Dia. of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____ Range of tensile strength _____

Descrip. of riveting long. seams _____ Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____

Lap of plating _____ Per centage of strength of joint _____ Thickness of shell crown plates _____ Radius of do. _____ No. of Stays to do. _____

Dia. of stays _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____

Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____

Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:— *Two top end bolts & nuts, 2 bottom end bolts & nuts, 2 main bearing bolts, 1 set coupling bolts, 1 set feed valves, pump valves, Assorted bolts & nuts, etc. etc.*

The foregoing is a correct description,

Manufacturer.

WILLIAM BEARDMORE & CO. LIMITED
Wm May

Dates of Survey while building

During progress of work in shops—	1904: Mar 28, Apr 4, 12, 15, 21, 26, May 9, 17, 23, 28, June 6, 8, 9.
During erection on board vessel—	16, 20, 25, 30, July 7, 12, 26, 29, Aug 2, 3, 4.
Total No. of visits	24

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

“ “ “ donkey “ “ “

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

The engines & boilers have been built under Special Survey, the materials are of good description. When completed the boilers were tested by hydraulic pressure to double the working pressure & was found tight & sound in every respect. The engines were tried under working conditions & were found to work well. In our opinion they are eligible for record

LMC 8.04

It is submitted that this vessel is eligible for THE RECORD. - LMC 8.04

B.H.
23.8.04

Certificate (if required) to be sent to

The amount of Entry Fee	£ 2	When applied for,	22 AUG 1904
Special	£ 23	When received,	
Donkey Boiler Fee	£		
Travelling Expenses (if any)	£		

Wm May
Mr. M. Buchanan & James Spollicion
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **Glasgow 22 AUG 1904**

Assigned *L.M.C. 8.04*
When fee is paid

