

# REPORT ON MACHINERY.

Port of Glasgow

Received at London Office 19

No. in Survey held at Paisley Date, first Survey 6th April Last Survey June 22nd 1904  
 Reg. Book. J. S. Fenam (Number of Visits 8)  
 on the J. S. Fenam Tons } Gross  
 Master Paisley Built at Paisley By whom built Bow & Lachlan & Co When built 1904 Net  
 Engines made at Paisley By whom made Bow & Lachlan & Co when made 1904  
 Boilers made at do By whom made do when made 1904  
 Registered Horse Power 65 Owners Glasgow Limestone Co Ltd Port belonging to Glasgow  
 Nom. Horse Power as per Section 28 65 Is Refrigerating Machinery fitted No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Compound No. of Cylinders 2 No. of Cranks 2  
 Dia. of Cylinders 16 7/8 3/4 Length of Stroke 24 Revs. per minute 7.89 Dia. of Screw shaft 7 1/16 Material of screw shaft Steel  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube No 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 — If two  
 liners are fitted, is the shaft lapped or protected between the liners Painted Length of stern bush 2' 8"  
 Dia. of Tunnel shaft 6.62 Dia. of Crank shaft journals 6.99 Dia. of Crank pin 7 1/8 Size of Crank webs 5x13 Dia. of thrust shaft under  
 collars 7 1/8 Dia. of screw 9-0 Pitch of screw 10-3 5/16 11-3 No. of blades 4 State whether moveable No Total surface 30 sq  
 No. of Feed pumps 1 Diameter of ditto 2 3/4 Stroke 12 Can one be overhauled while the other is at work —  
 No. of Bilge pumps 1 Diameter of ditto 2 3/4 Stroke 12 Can one be overhauled while the other is at work —  
 No. of Donkey Engines 1 Sizes of Pumps 5 1/4 x 3 1/4 x 5 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 2-2" In Holds, &c. 2-2" 1-2" each peak

No. of bilge injections 1 sizes 4" Connected to condenser, or to circulating pump Yes Is a separate donkey suction fitted in Engine room & size Yes, 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 —  
 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 Fore peak tank How are they protected Wood ceiling  
 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, propellers, screw shaft, and all connections examined in dry dock Before launch Is the screw shaft tunnel watertight None  
 Is it fitted with a watertight door — worked from —

BOILERS, &c.— (Letter for record (S)) Total Heating Surface of Boilers 1254 sq Is forced draft fitted No  
 No. and Description of Boilers One Single Ended Working Pressure 125 Tested by hydraulic pressure to 250 lb  
 Date of test 19/5/04 Can each boiler be worked separately — Area of fire grate in each boiler 40 sq No. and Description of safety valves to  
 each boiler 2 Spring loaded Area of each valve 5.9 sq Pressure to which they are adjusted 130 lbs Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork abt 6" Mean dia. of boilers 11-6" Length 9-6" Material of shell plates Steel  
 Thickness 3/4" Range of tensile strength 28 ton Are they welded or flanged No Descrip. of riveting: cir. seams D. R. L. long. seams D. R. S., 3 rows  
 Diameter of rivet holes in long. seams 3/32" Pitch of rivets 4 29/32" ~~Top of plates or width of butt straps~~ 14 3/4"  
 Per centages of strength of longitudinal joint rivets 89 1/2 Working pressure of shell by rules 126 lbs Size of manhole in shell 16x12  
 Size of compensating ring Flanged No. and Description of Furnaces in each boiler 2 plain Material Steel Outside diameter 3-5 1/4  
 Length of plain part top 75" bottom 102" Thickness of plates crown 57/8" Description of longitudinal joint weld No. of strengthening rings 1 practical  
 Working pressure of furnace by the rules 130 Combustion chamber plates: Material Steel Thickness: Sides 9/16 Back 9/16 Top 9/16 Bottom 57/8  
 Pitch of stays to ditto: Sides 9x8 Back 9x8 Top 9x8 1/4 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 139 lb  
 Material of stays Steel Diameter at smallest part 1.24 Area supported by each stay 78 sq Working pressure by rules 127 End plates in steam space:  
 Material Steel Thickness 7/8" Pitch of stays 16x16 How are stays secured D. Nuts Working pressure by rules 134 Material of stays Steel  
 Diameter at smallest part 3.49 Area supported by each stay 256 sq Working pressure by rules 133 Material of Front plates at bottom Steel  
 Thickness 2 3/32" Material of Lower back plate Steel Thickness 1 1/16" Greatest pitch of stays 14" Working pressure of plate by rules —  
 Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" Material of tube plates Steel Thickness: Front 2 3/32" Back 45/64" Mean pitch of stays 11 3/4"  
 Pitch across wide water spaces 14" Working pressures by rules 120 lbs Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre (6 3/4 x 3 1/4) 2 Length as per rule 27 1/2" Distance apart 8 3/4" Number and pitch of Stays in each 2-9"  
 Working pressure by rules 150 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 —

If not, state whether, and when, one will be sent. Is a Report also sent on the Hull of the Ship?



002071-002078-0085

**DONKEY BOILER**— No. \_\_\_\_\_ Description *None*

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 \_\_\_\_\_ Rivets \_\_\_\_\_ 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:— *Propeller, air & circulating pump valves, 6 piston bolts, & the bolts & nuts required by the rules.*

The foregoing is a correct description,

Manufacturer.

**FOR BOW, MOLACHLAN, & CO., LTD**

Dates of Survey while building

During progress of work in shops - -	1904: April 6, 13, 23	May 11, 19	June 16, 20, 22	
	During erection on board vessel - -			
	Total No. of visits <i>8</i>			

Is the approved plan of main boiler forwarded herewith *Yes*  
 " " " donkey " " " *None*

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

*The engine & boiler of this vessel have been constructed under Special Survey & are of good materials & workmanship. They have been satisfactorily tried under steam.*

*This vessel is in my opinion eligible for notation \*LMC. 6.04 in the Register-Book.*

It is submitted that this vessel is eligible for the notation

**LMC. 6.04**

*H.S.*  
*5.7.04*

Certificate (if required) to be sent to

The amount of Entry Fee..	£ 1 : : : : : When applied for,
Special .. .. .	£ 9 : 15 : : : : : -4 JUL 1904
Donkey Boiler Fee .. .. .	£ : : : : : When received,
Travelling Expenses (if any) £	: : : : : 13.7.04

*H Gardner-Smith*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **Glasgow - 2 JUL 1904**

Assigned

**\* L.M.C. 6.04**

When fee is paid  
 MACHINERY CERTIFICATE  
 WRITTEN 3-7-04



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