

# REPORT ON MACHINERY

No. 35572

WED. NOV. 10. 1915

Received at London Office

Date of writing Report 10 When handed in at Local Office 10 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 7/1/15 Last Survey 2/1/15 1915

Reg. Book. on the Machinery of S.S. GALACOM (Tonnage No 224) (Number of Vlets 39) Gross 585 Net 243

Master Williamson Built at Norkington By whom built A. Williamson & Son When built 1915

Engines made at Glasgow By whom made Ross & Duncan Eng. 996 when made 1915

Boilers made at S By whom made S Robt. S. 1491 when made 1915

Registered Horse Power 87 Owners A. Williamson & Son Port belonging to Norkington

Nom. Horse Power as per Section 28 87 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

**ENGINES, &c.**—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 13 2 1/2 35 Length of Stroke 27 Revs. per minute 83 Dia. of Screw shaft 7 3/8 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 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 2-9 1/4

Dia. of Tunnel shaft 6-6 1/2 Dia. of Crank shaft journals 6-9 1/2 Dia. of Crank pin 7 3/8 Size of Crank webs 13 1/2 x 4 1/2 Dia. of thrust shaft under collars 7 3/8 Dia. of screw 10-3 Pitch of Screw 13-7 1/2 No. of Blades 4 State whether moveable no Total surface 41 1/2

No. of Feed pumps 2 Diameter of ditto 2 1/2 Stroke 13 1/2 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 2 1/2 Stroke 13 1/2 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps Ballast 8x6x6 2 1/2" dia. 6x4x6 2 1/2" dia. 6x4x6 2 1/2" dia. No. and size of Suctions connected to both Bilge and Donkey pumps 2-2" bore

In Engine Room 2-2" bore In Holds, &c. One each side 2" bore

No. of Bilge Injections 3 Connected to condenser, or to circulating pump Pump 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 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 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 1650

What pipes are carried through the bunkers Forward Suctions How are they protected Rosed in

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 Sept. 1650 of Stern Tube Screw shaft and Propeller

Is the Screw Shaft Tunnel watertight no tunnel Is it fitted with a watertight door worked from

**BOILERS, &c.**—(Letter for record S) Manufacturers of Steel J. Colville & Sons

Total Heating Surface of Boilers 1594 sq. ft. Is Forced Draft fitted no No. and Description of Boilers One single ended

Working Pressure 170 lbs Tested by hydraulic pressure to 340 lbs Date of test 3/8/15 No. of Certificate 13227

Can each boiler be worked separately Yes Area of fire grate in each boiler 50 sq. ft. No. and Description of Safety Valves to each boiler 2 direct spring Area of each valve 5-4 1/2 Pressure to which they are adjusted 175 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 3-6 Mean dia. of boilers 13-6 Length 10-0 Material of shell plates Steel

Thickness 1 1/8 Range of tensile strength 28/32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams lap SA long. seams lap SA Diameter of rivet holes in long. seams 1 3/16 Pitch of rivets 7/4 Lap of plates or width of butt straps 18 1/4

Per centages of strength of longitudinal joint 87-6 Working pressure of shell by rules 170 lbs Size of manhole in shell 16 x 12

Size of compensating ring 26 x 30 x 1 1/8 No. and Description of Furnaces in each boiler 3 Plain Material Steel Outside diameter 42

Length of plain part 5-9 3/8 Thickness of plates 23/32 Description of longitudinal joint Weld No. of strengthening rings 1-3 x 3 1/2

Working pressure of furnace by the rules 174 lbs Combustion chamber plates: Material Steel Thickness: Sides 2 1/32 Back 2 1/32 Top 2 1/32 Bottom 2 1/32

Pitch of stays to ditto: Sides 8 1/4 x 50 Back 8 1/4 x 50 Top 10 x 8 1/4 If stays are fitted with nuts or riveted heads no Working pressure by rules 177 lbs

Material of stays Steel Diameter at smallest part 1-7/8 Area supported by each stay 720 Working pressure by rules 195 lbs End plates in steam space Large cone washers

Material Steel Thickness 1 1/8 Pitch of stays 17 x 18 1/2 How are stays secured Steel nuts Working pressure by rules 172 Material of stays Steel

Diameter at smallest part 5-4 Area supported by each stay 3100 Working pressure by rules 182 lbs Material of Front plates at bottom Steel

Thickness 3/4 Material of Lower back plate Steel Thickness 25/32 Greatest pitch of stays 13 1/4 x 8 Working pressure of plate by rules 176 lbs

Diameter of tubes 5 1/2 Pitch of tubes 4 1/2 x 4 5/8 Material of tube plates Steel Thickness: Front 3/4 Back 3/4 Mean pitch of stays 10-12

Pitch across wide water spaces 5 1/2 x 5 1/2 Working pressures by rules 197 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 7 1/2 x 13 1/4 Length as per rule 2-9 3/8 Distance apart 8 1/4 Number and pitch of stays in each 2-10"

Working pressure by rules 172 lbs Superheater or Steam chest; how connected to boiler 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 no

IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *See Report 35/69*

SPARE GEAR. State the articles supplied: -

*Rings for J.P. & P. pistons, 2 each of top & bottom and main bearing bolts & nuts, a set of coupling bolts & nuts, spare valves for all pumps, assorted bolts & nuts, iron of various sizes.*

The foregoing is a correct description,

*Ross & Duncan, Ironworks, Glasgow* Manufacturer.

Dates of Survey while building: During progress of work in shops - *1915 Jan 25 Feb 6/12 17-22 25 Mar 4/12 25-29 Apr 1/13 15-22 30 May 7/11 17 24 31 Jun 9/14 18 July 2/1 12 18*  
During erection on board vessel - *5-12 17-25 27 Sept 20-27 Oct 5-12 21 29 Nov 2*  
Total No. of visits *39*

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

Dates of Examination of principal parts - Cylinders *4/12 29/9/15* Slides *18/6/15* Covers *17/5 25/2/15* Pistons *7/1/15* Rods *17/5/15*  
Connecting rods *17/5/15* Crank shaft *7/5/15* Thrust shaft *5/8/15* Tunnel shafts *none* Screw shaft *5/8/15* Propeller *5/8/15*  
Stern tube *5/8/15* Steam pipes tested *12/10/15* Engines and boiler seatings *29/9/15* Engines holding down bolts *2/11/15*  
Completion of pumping arrangements *2/11/15* Boilers fixed *5/10/15* Engines tried under steam *2/11/15*  
Main boiler safety valves adjusted *19/10/15* Thickness of adjusting washers *Port & Star 3/16*  
Material of Crank shaft *N. Iron* Identification Mark on Do. *7183* Material of Thrust shaft *N. Iron* Identification Mark on Do. *W.A. 1883*  
Material of Tunnel shafts *N. Iron* Identification Marks on Do. *W.A. 1883* Material of Screw shafts *N. Iron* Identification Marks on Do. *W.A. 1883*  
Material of Steam Pipes *Solid drawn Copper* Test pressure *340 lb*  
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.) *This machinery has been built under special survey the materials & workmanship are good. It has been properly fitted on board & secured & tried under steam & the case is eligible in my opinion for the notation + d.m.c. 11.15.*

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 11.15.

The amount of Entry Fee ... £ 1 : 0 : 0  
Special ... £ 13 : 1 : 0  
Donkey Boiler Fee ... £  
Travelling Expenses (if any) £ 1 : 0 : 6

*A. Mitchell*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute GLASGOW 9 - NOV. 1915 FRI. 12 NOV. 1915  
Assigned + L.M.C. 11.15

subject to classification of hull

