

# REPORT ON MACHINERY.

No. 38834.

WED. 18 JUN. 1919

Received at London Office

Date of writing Report 9 '6 1919 When handed in at Local Office 16.6.1919. Port of Glasgow.

No. in Survey held at Glasgow Date, First Survey 2-5-18. Last Survey 5.6.1919  
Reg. Book. on the S.S. "Ardgantoch" ex "War Summel" (Number of Visits 33)

Master Built at Ardrossan By whom built Ardrossan D.D. & Co. (303) When built 1919

Engines made at Clydebank By whom made Archibald Blair Ltd 120 when made 1919

Builders made at Glasgow By whom made Dunsmuir & Jackson (B112) when made 1919

Registered Horse Power Owners Messrs Lang & Hutton Port belonging to Greenock.

Nom. Horse Power as per Section 28 115 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No.

ENGINES; &c.—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 16" 26" 42" Length of Stroke 24" Revs. per minute 110 Dia. of Screw shaft as per rule 8 3/4" Material of screw shaft as fitted 8 3/4" S

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 No 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 If two liners are fitted, is the shaft lapped or protected between the liners No Length of stern bush 3'-0"

Dia. of Tunnel shaft as per rule None Dia. of Crank shaft journals as per rule 8 1/2" Dia. of Crank pin 8 1/4" Size of Crank webs 5 3/4" x 5 1/2" Dia. of thrust shaft under collars 8 1/2" Dia. of screw 10'-6" Pitch of Screw 11'-6" No. of Blades 4 State whether moveable No Total surface 35 sq ft

No. of Feed pumps 2 Diameter of ditto 3" Stroke 13 1/2" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3" Stroke 13 1/2" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 2 Horn Lamont 6" x 4 1/2" x 6" Duplex No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 2-2 1/4 & 1-2 1/2 Special Bilge In Holds, &c. 2-2"

No. of Bilge Injections 1 sizes 7" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size 1-2 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 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 None How are they protected No

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 5.3.19 of Stern Tube 5.3.19 Screw shaft and Propeller 5.3.19

Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door No worked from No

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Steel Co. of Scotland, D. Colville & Sons

Total Heating Surface of Boilers 1998 sq ft Is Forced Draft fitted No. and Description of Boilers One Single Ended Multi-tubular

Working Pressure 180 lbs per sq in Tested by hydraulic pressure to 360 lbs per sq in Date of test 24.3.19 No. of Certificate 14662

Can each boiler be worked separately No Area of fire grate in each boiler 608 sq ft No. and Description of Safety Valves to each boiler 2 Spring Loaded Area of each valve 5.9 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 3'-6" Mean dia. of boilers 14'-6" Length 10'-6" Material of shell plates S.

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

Long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Percentages of strength of longitudinal joint rivets..... Working pressure of shell by rules Size of manhole in shell plate.....

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top..... Thickness of plates crown..... Description of longitudinal joint No. of strengthening rings bottom.....

Working pressure of furnace by the rules Combustion chamber plates Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space:

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Thickness Material of Lower back plates Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

Thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules 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

Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

Strengthened 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

003106-003115-0056



**VERTICAL DONKEY BOILER**— Manufacturers of Steel *Steel Coy of Scotland*  
 No. *11089* Description *Cross Tube*  
 Made at *Annan* By whom made *Boehran & Co.* When made *1918* Where fixed *Boiler Room*  
 Working pressure *80* tested by hydraulic pressure to *160* Date of test *15/11/18* No. of Certificate *14525* Fire grate area *132 1/2* Description of Safety Valves *Spring Loaded* No. of Safety Valves *1* Area of each *7 1/2* Pressure to which they are adjusted *85* Date of adjustment *8.5.19*  
 If fitted with casing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *5'-0"* Length *11'-0"*  
 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 riveting Per centage of strength of joint Rivets  
 Working pressure of shell by rules Thickness of shell crown plates Radius of do. No. of stays to do. Dia. of stays Plates  
 Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Description of joint  
 Working pressure of furnace by rules Thickness of furnace crown plates Radius of do. Stayed by  
 Diameter of uptake Thickness of uptake plates Thickness of water tubes Dates of survey

**SPARE GEAR.** State the articles supplied:— *2 Piston Rods 2 Connecting Rods & 2 Main Bearing Bolts & Nuts*  
*1 Set (5) Coupling Bolts & Nuts 1 Set Air Pump, 1 Set Head, 1 Set Bridge & 1 Set Circulating*  
*Pump Valves. Quantity assorted Bolts & Nuts, Iron of various sizes. 6 Boiler Tubes*  
*6 Condenser Tubes & 12 Ferrules & 5 lbs cord packing*  
 The foregoing is a correct description,  
 Manufacturer. *AITCHISON, BLAIR LTD. Arch. Blair 10/6/19.*

Dates of Survey while building  
 During progress of work in shops -- *1918 May 2 June 25 Aug 7 23 25 28 Oct 9 10 24 Nov 4 Dec 6 17*  
 During erection on board vessel -- *1919 Jan 10 16 23 Feb 2 14 19 24 28 Mar 5 6 14 24 Apr 4 11 14 16 22 28 May 28 June 5*  
 Total No. of visits *33* Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders *28.8.19* Slides *16.1.19* Covers *12.2.19* Pistons *28.8.16.1.19* Rods *2.5.18*  
 Connecting rods *2.5.18* Crank shaft *23.8.18* Thrust shaft *23.1.19* Tunnel shafts *None* Screw shaft *23.1.19* Propeller *16.1.19*  
 Stern tube *23-1-19* Steam pipes tested *16.4.19* Engine and boiler seatings *5.3.19* Engines holding down bolts *11.4.19*  
 Completion of pumping arrangements *8.5.19* Boilers fixed *7.4 & 8.5.19* Engines tried under steam *5.6.19*  
 Main boiler safety valves adjusted *8.5.19* Thickness of adjusting washers *Per A 3 1/2 Starboard 3/8*  
 Material of Crank shaft *S* Identification Mark on Do. *120HC* Material of Thrust shaft *S* Identification Mark on Do. *120M*  
 Material of Tunnel shafts *None* Identification Marks on Do. *✓* Material of Screw shafts *S* Identification Marks on Do. *120M*  
 Material of Steam Pipes *Copper* Test pressure *360 lbs per sq in*

**General Remarks** (State quality of workmanship, opinions as to class, &c.)  
*The engines & boiler of this vessel have been built under Special Survey, the workmanship and material are good, they have been well fitted on board, tried under steam and found to work satisfactorily*  
*The machinery of this vessel is eligible in my opinion for the record of + L.M.C. 6.19 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 6.19

*J.W.D. Rem 19.6.19*

The amount of Entry Fee .. £ *2* : - :  
 Special .. £ *10.12* : :  
 Donkey Boiler Fee .. £ *✓* : :  
 Travelling Expenses (if any) £ *10.6* : :  
 When applied for, *11.6.19*  
 When received, *13.6.19*

*J.P. Murray*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute **GLASGOW** 17 JUN. 1919  
 Assigned *+ L.M.C. 6.19* *W.J.M.*

GLASGOW

Certificate (if required) to be sent to

*16.6.19*

