

REPORT ON MACHINERY.

Received at London Office WED. 30 OCT. 1918

Date of writing Report 10 When handed in at Local Office 10 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 5th April 1914 Last Survey 23rd Oct 1918
 Reg. Book. on the S.S. "Argirvan" (Number of Visits 51)
 Master Built at Campbeltown By whom built Campbeltown When built 1918
 Engines made at Glasgow By whom made Ross & Duncan. Ings No 1029 when made 1918
 Boilers made at Glasgow By whom made Ross & Duncan Bldg Nos 1536-37 when made 1918
 Registered Horse Power Owners Lang & Fulton Ltd. Ings. Port belonging to Glenoch
 Nom. Horse Power as per Section 28 142 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 18 x 27 1/2 x 45 Length of Stroke 33 Revs. per minute 80 Dia. of Screw shaft as per rule 9 1/8 Material of screw shaft St.
 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 40"
 Dia. of Tunnel shaft as per rule 8 5/8 Dia. of Crank shaft journals as per rule 9 2/8 Dia. of Crank pin 9 1/2 Size of Crank webs 17 1/2 x 6 1/8 Dia. of thrust shaft under collars 9 3/8 Dia. of screw 12-1 Pitch of Screw 13-6 No. of Blades 4 State whether moveable No Total surface 52 sq ft
 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 Stroke 16 1/2 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines Three Sizes of Pumps 6 x 4 1/2 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps 7 x 9 x 8
 In Engine Room Three 2 1/4" In Holds, &c. Fore Hold. 2-2 1/4"
After Hold. 1-2 1/2"
 No. of Bilge Injections 1 sizes 4" Connected to condenser, or to circulating pump C.P. 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 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 Forward bilge suction How are they protected Boxed 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 Glenoch Rpt of Stern Tube Glenoch Rpt Screw shaft and Propeller Glenoch Rpt
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel D. Colville & Sons.
 Total Heating Surface of Boilers 2386 sq ft Is Forced Draft fitted No No. and Description of Boilers Two Mult Single Ended
 Working Pressure 180 lbs Tested by hydraulic pressure to 300 lbs Date of test 26-8-18 No. of Certificate 14428
 Can each boiler be worked separately Yes Area of fire grate in each boiler 39.5 sq ft No. and Description of Safety Valves to each boiler Two Spring loaded Area of each valve 3.96 sq in Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers 9" Mean dia. of boilers 11-6" Length 10-6" Material of shell plates S
 Thickness 3/32" Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L.D.R.
 long. seams T.P.D.S. Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 6 7/8" width of butt straps 17 1/2"
 Per centages of strength of longitudinal joint rivets 88.5 Working pressure of shell by rules 180 lbs Size of manhole in shell 16 x 12"
 plate 83.6 Size of compensating ring 7 x 3/32" No. and Description of Furnaces in each boiler Two Corrugated Material S Outside diameter 46 1/4"
 Length of plain part top 9 1/16" Description of longitudinal joint Weld No. of strengthening rings None
 bottom 9 1/16" Working pressure of furnace by the rules 190 lbs Combustion chamber plates: Material S Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 1/16"
 Pitch of stays to ditto: Sides 8 3/4 x 7 3/8" Back 8 3/4 x 8 1/4" Top 8 2 x 7 3/4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 187
 Material of stays S Area at smallest part 1.76 Area supported by each stay 72 sq in Working pressure by rules 217 End plates in steam space S
 Material S Thickness 3/32" Pitch of stays 16 3/8 x 14 1/2" How are stays secured D. nuts Working pressure by rules 180 lbs Material of stays S
 Area at smallest part 4.43 Area supported by each stay 248 sq in Working pressure by rules 186 Material of Front plates at bottom S
 Thickness 27/32" Material of Lower back plate S Thickness 27/32" Greatest pitch of stays 13 1/2 x 8 3/4" Working pressure of plate by rules 190
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/4 x 4 3/8" Material of tube plates S Thickness: Front 27/32" Back 3/4" Mean pitch of stays 9.9
 Pitch across wide water spaces 14" Working pressures by rules 206 Girders to Chamber tops: Material S Depth and thickness of girder at centre 7 3/4 x 1 3/4" Length as per rule 30 5/8" Distance apart 8 1/2" Number and pitch of stays in each Three. 7 3/4"
 Working pressure by rules 182 Superheater or Steam chest; how connected to boiler Yes Can the superheater be shut off and the boiler worked separately Yes
 Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet holes Yes
 Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes
 If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes
 Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes

VERTICAL DONKEY BOILER— Manufacturers of Steel

no donkey boiler.

No.	Description				
Made at	By whom made		When made	Where fitted	
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted		Date of adjustment
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	
Working pressure of shell by rules	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	
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:— 1 set each of top & bottom end, main bearing & coupling bolts & nuts, feed, ridge, air & circulating pump valves. 1 spring each for feed & ridge pump relief valves. 1 C.I. propeller, assorted cast iron, nuts & bolts.

The foregoing is a correct description,

Ross Duncan, Manufacturer.

Dates of Survey while building	During progress of work in shops	1918 Apr. 5-18 June 20 July 11 Aug 3 Sept 26 Oct 3 1918 Jan 23-29 Feb 25 Mar 21-24-29 Apr 3-5-13-22
	During erection on board vessel	May 2-7-10-16-14-20-24-28-30-31 June 10-14-17-21-25-28 July 2-4-8-26-30 Aug 2-5-9-21-26-30 Oct 7-11-15-18-22
	Total No. of visits	51

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders	13-8-18	Slides	2-8-18	Covers	9-8-18	Pistons	10-6-18	Rods	10-6-18
Connecting rods	10-6-18	Crank shaft	28-5-18	Thrust shaft	25-6-18	Tunnel shafts	21-8-18	Screw shaft	13-8-18
Stern tube	30-8-18	Steam pipes tested	11-10-18	Engine and boiler seatings	Greenock Pt	Engines holding down bolts	4-10-18		
Completion of pumping arrangements	23-10-18	Boilers fixed	4-10-18	Engines tried under steam	23-10-18				
Main boiler safety valves adjusted	18-10-18	Thickness of adjusting washers	PORT. 3/8" P. 5/16" S. STAR. 3/8" P. 13/32" S						
Material of Crank shaft	S	Identification Mark on Do.	28-5-18. J.E.S	Material of Thrust shaft	S	Identification Mark on Do.	25-6-18. J.E.S		
Material of Tunnel shafts	S	Identification Marks on Do.	21-8-18. J.E.S	Material of Screw shafts	S	Identification Marks on Do.	13-8-18. J.E.S		
Material of Steam Pipes	Seamless Copper 3 3/4" INT DIA. No 7. W.G.	Test pressure	360 lbs.						

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

This machinery is a duplicate of the same Builders tags no 1021. "S.S. Argentin". Rpt no 34999.

These engines & boiler have been built under Special Survey, the materials and workmanship are sound & good. They have been fitted on board in an efficient manner, tried under working conditions and found satisfactory, and are eligible in my opinion to be classed with record of L.M.C. 10-18.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 10.18

J. L. L. 2-11-18

J. L. L.

The amount of Entry Fee	£ 2 : 0 : 0	When applied for.
Special	£ 21 : 6 : 0	29-10-18
Donkey Boiler Fee	£ :	When received.
Travelling Expenses (if any)	£ :	31-10-18

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

Committee's Minute GLASGOW 29 OCT 1918

Assigned + L.M.C. 10.18.

MACHINERY CERTIFICATE WRITTEN 30-10-18



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