

REPORT ON MACHINERY.

No. 27286
WED. 23 DEC 1908

Received at London Office

Date of writing Report Dec. 14th 1908 When handed in at Local Office 19/12/ 1908 Port of Glasgow.
 No. in Survey held at Reg. Book. 5. 5. "AGNES ELLEN" Date, First Survey 1st Sept. 1908 Last Survey Dec 11th 1908
 on the Master Built at Bowling By whom built Scott & Sons. No 212. Tons Gross 1908.
 Engines made at Glasgow. By whom made Ross & Duncan. No 496 when made 1908.
 Boilers made at Glasgow. By whom made Ross & Duncan No 1225. when made 1908.
 Registered Horse Power Owners James Henry Marks (Preston) Ltd Port belonging to Liverpool
 Nom. Horse Power as per Section 28 44 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No.

ENGINES, &c.—Description of Engines

Compound ✓ No. of Cylinders 2 No. of Cranks 2
 Dia. of Cylinders 14" x 36" Length of Stroke 24 Revs. per minute 114 Dia. of Screw shaft as per rule 7 1/2" 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 Yes If two
 liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 2'-4"
 Dia. of Tunnel shaft as per rule 4 1/2" Dia. of Crank shaft journals as per rule 4 1/2" Dia. of Crank pin 4 1/2" Size of Crank webs 5' x 14" Dia. of thrust shaft under
 collars 4 1/2" Dia. of screw 8'-0" Pitch of Screw 11-0 No. of Blades 4 State whether moveable Yes Total surface 22 sq ft
 No. of Feed pumps 2 ✓ Diameter of ditto 2 3/4" Stroke 12" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 ✓ Diameter of ditto 2 3/4" Stroke 12" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines One Sizes of Pumps 6 x 4 x 6 duplex No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room One 2 1/2", Two 2" including donkey engine In Holds, &c. Two 2" - 4 1-2" Each suction
 No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size One 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 Hold suction How are they protected Wood casings ✓
 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 23-11-08 of Stern Tube 23-11-08 Screw shaft and Propeller 23-11-08.
 Is the Screw Shaft Tunnel watertight ✓ Is it fitted with a watertight door worked from ✓

BOILERS, &c.—(Letter for record)

Manufacturers of Steel David Colville & Sons.
 Total Heating Surface of Boilers 14885 Is Forced Draft fitted No No. and Description of Boilers One single ended ✓
 Working Pressure 135 lbs Tested by hydraulic pressure to 240 Date of test 23-11-08 No. of Certificate 9620
 Can each boiler be worked separately ✓ Area of fire grate in each boiler 49.4 sq ft No. and Description of Safety Valves to
 each boiler Pair spring loaded Area of each valve 6.49 Pressure to which they are adjusted 140 lbs Are they fitted with easing gear Yes ✓
 Smallest distance between boilers or uptakes and bunkers or woodwork 3'-4" Dia. of boilers 13'-0" Length 10'-0" Material of shell plates steel
 Thickness 2 3/8" Range of tensile strength 28-32 lbs Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R. ✓
 long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1" Pitch of rivets 6 1/4" Lap of plates or width of butt straps 15 3/4" ✓
 Per centages of strength of longitudinal joint rivets 88.6 plate 84 Working pressure of shell by rules 135 lbs Size of manhole in shell 12" x 16" ✓
 Size of compensating ring 6 3/4" x 2 3/8" No. and Description of Furnaces in each boiler 3 plain Material steel Outside diameter 41" ✓
 Length of plain part top 4 1/2" bottom 3 3/8" Thickness of plates crown 3 5/8" Description of longitudinal joint welded No. of strengthening rings One ✓
 Working pressure of furnace by the rules 136 lbs Combustion chamber plates: Material steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 9/16" ✓
 Pitch of stays to ditto: Sides 9 1/2" x 8" Back 9 1/2" x 8" Top 9 1/2" x 8" If stays are fitted with nuts or riveted heads Nuts. Working pressure by rules 141 lbs ✓
 Material of stays steel Area at smallest part 1.48 Area supported by each stay 46 sq in Working pressure by rules 155 End plates in steam space:
 Material steel Thickness 1 3/16" Pitch of stays 18 1/4" x 16" How are stays secured D.N.W. Working pressure by rules 135 lbs Material of stays steel ✓
 Diameter at smallest part 3.98 Area supported by each stay 30.4 sq in Working pressure by rules 135 lbs Material of Front plates at bottom steel ✓
 Thickness 2 3/8" Material of Lower back plate steel Thickness 2 3/8" Greatest pitch of stays 13" x 9" Working pressure of plate by rules 142 lbs ✓
 Diameter of tubes 3 1/2" Pitch of tubes 4 1/8" x 4 3/4" Material of tube plates steel Thickness: Front 2 3/8" Back 2 3/8" Mean pitch of stays 11 3/4" ✓
 Pitch across wide water spaces 14 Working pressures by rules 135 lbs Girders to Chamber tops: Material Iron Depth and
 thickness of girder at centre 6 1/2" x 2" Length as per rule 30 2 3/8" Distance apart 8" Number and pitch of stays in each 2 @ 9 1/2" ✓
 Working pressure by rules 145 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

VERTICAL DONKEY BOILER

Manufacturers of Steel

No.	Description				
Made at	By whom made		When made	Where fixed	
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	Rivets Plates
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	Stayed by			
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied: 2 Cnr Rod top end bolts & nuts, 2 Cnr Rod bottom end bolts & nuts, 2 Main Bearing Bolts, 1 set Coupling bolts, 1 set feed & large pump valves, 1 set Propeller blades, Quantity of painted bolts, nuts, & iron.

The foregoing is a correct description,
Ross & Duncan Manufacturer.

Dates { During progress of work in shops - 1908. Apr. 1. 7. 21. 22. 29. Oct. 5. 12. 15. 20. 21. 28. Nov. 3. 6. 11. 12. 13. 19. 23. 26. 30.
 of Survey { During erection on board vessel - Dec. 1. 5. 7. 11.
 while building { Total No. of visits 25.

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

Dates of Examination of principal parts—Cylinders 12-10-08 Slides 12-10-08 Covers 20-10-08 Pistons 28-10-08 Rods 5-10-08
 Connecting rods 12-10-08 Crank shaft 5-10-08 Thrust shaft 28-10-08 Tunnel shafts ✓ Screw shaft 13-11-08 Propeller 13-11-08
 Stern tube 13-11-08 Steam pipes tested 2-12-08 Engine and boiler seatings 23-11-08 Engines holding down bolts 2-12-08
 Completion of pumping arrangements 2-12-08 Boilers fixed 30-11-08 Engines tried under steam 11-12-08.
 Main boiler safety valves adjusted 3-12-08 Thickness of adjusting washers Both 1/4"
 Material of Crank shaft Iron Identification Mark on Do. 446. Material of Thrust shaft Iron Identification Mark on Do. 446
 Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Iron Identification Marks on Do. 776.
 Material of Steam Pipes Copper Test pressure 240 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c.) The Machinery of this vessel has been built under special survey, the materials and workmanship are of good quality and have been securely fitted on board, and satisfactorily tried under full steam pressure. The Machinery of this vessel is in my opinion eligible to be classed and I have record **L.M.C. 12-08** in Register Book.

Plr. Request No. 19 attached.

It is submitted that this vessel is eligible for **THE RECORD. + L M C 12.08.**

W. B. R. 24-12-08
H. B. D. 24/12/08.

The amount of Entry Fee £ 1 : 0 0 :
 Special £ 11 : 11 0 :
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 18/12/1908
 When received, 22/12/1908

Committee's Minute GLASGOW 22 DEC 1908

Assigned + L M C 12.08. GLASGOW

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



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MACHINERY CERTIFICATE
 WRITTEN 23-12-08